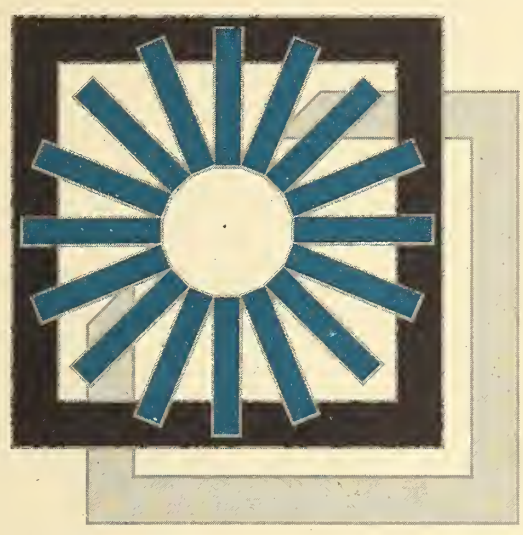


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ONTARIO MINISTRY OF ENVIRONMENT
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RESTRUCTURING FOR SUSTAINABILITY



Ontario Round
Table on
Environment
and Economy

Table ronde
de l'Ontario sur
l'environnement
et l'économie

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Ontario Round
Table on
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and Economy

Table ronde
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l'environnement
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LETTER OF TRANSMITTAL

The Ontario Round Table on Environment and Economy is pleased to submit its strategy for sustainable development to the Premier and the people of Ontario. Round Table members believe that Ontario can lead other jurisdictions on the path to a more environmentally healthy, economically prosperous, and equitable future for people in our province, in our country, and in a world we must share with each other.

We believe that the people of Ontario, like people everywhere, are concerned about the impact of the environment and the economy on each other and on all aspects of society. The problems have been stated and restated. Now, people seek answers. At a time when change seems to be the only certainty, and when the speed of change is itself increasing, there must be a sense that responsible decision-makers understand the three basic elements for planning and action: to accurately identify the problems; to recognize the direction society wants to take in solving them; and to have some coherent idea of how to get from one to the other.

This report is the Round Table's advice for reversing the legacy of environmental damage that has been created in Ontario. Our goal is to ensure that our children and theirs may enjoy the bounty and beauty of the Earth comparable to that which we inherited from our parents and theirs.

The existence of the Round Table is evidence that we are in the midst of a major rethinking of ways to deal with major environmental/economic problems. In fact, the round table process itself is worth specific attention. It brings together people with vastly different backgrounds, experiences, and views. It may offer an opportunity for participants to hear, first-hand and for the first time, the concerns felt by those in another region, another business, another community. The basic premise of the round table format is that, given the chance, representatives of different interests will find enough common ground on which to deal effectively with the complex issues that affect all interests.

It should be emphasized that the purpose of any round table is not to wait until there is absolute unanimity on every issue, every recommendation, every goal. In the real world — the one in which round tables must operate — waiting for total agreement amongst all stakeholders would simply ensure that nothing actually ever changes, nothing substantial is ever accomplished. Therefore, although each of us is satisfied that the results of our work can be used for the benefit of all the people of Ontario, we note that not every member necessarily agrees fully with each and every part of this report.

There are, of course, certain fundamental matters on which there is global agreement. Perhaps the most important is the recognition that if we do not make the right, though possibly difficult, choices now to avoid or minimize ecological damage, these may be thrust on us later in even more dire form.

The need to confront such problems in a nation with Canada's advantages — our natural resources, our people, and the social context in which we live — may seem to be a paradox. But it is inevitable, given a world in which everything is connected to everything else. The environment, the economy, and social structures and institutions are interdependent in ways we have only begun to understand.

What, in that context, is the purpose of a sustainable development strategy for Ontario? The members of the Round Table see it as a map that can help us delineate goals and indicate how we can reach them. First, because we cannot formulate sound answers until we ask sound questions, we have to accurately diagnose and describe the problems we face. Second, we have to recognize the constraints we face and the options we have. Finally, because limited resources have to be allocated wisely, we must set priorities.

We are convinced that sustainable development is compatible with economic strategies; in future, sustainable industries are most likely to be the most competitive — and the most competitive industries are likely to be environmentally sustainable.

The deeper challenge is to accomplish all this in a world that is constantly changing. Therefore, our assumptions must always be open to examination and revision, which means maintaining enough flexibility to adjust priorities and actions when required.

In the three-and-a-half years that we have operated as members of the Ontario Round Table, we have gained many insights that are reflected in this strategy. We have also learned two vital, albeit less apparent, lessons: it is difficult to reconcile environmental and economic imperatives; it is absolutely crucial that we do so.

On the first point, the Round Table had to come to grips with a broad, almost all-encompassing range of issues with a common link — sustainability — that is only beginning to be understood and accepted.

We note similarities among the round table concept, the environmental/economic problems we face, and the possible solutions that may have to be applied. Each is a tightly woven circle, and the three must be woven together if we are to achieve a sustainable society. Clearly, there are no quick, simple, painless answers. Compromises are often awkward and tenuous. While, realistically, no single strategy can deal definitively with all the requirements of sustainable development, the recommendations contained in this report are valuable, we believe, because they are what diverse interests in Ontario can agree are necessary now and for the foreseeable future. And the key fact is that if humans are on a collision course with ecological reality, it matters a great deal that we change direction quickly and decrease the momentum of harmful decisions and practices.

On the second point — the necessity of integrating environmental and economic imperatives — Round Table members, like all citizens of the province, are faced almost daily with news of environmental crises: ozone depletion, global warming, acid rain and snow, contaminated lakes and rivers, loss of forests and farmlands, loss of species, depletion of resources, continuing air and water pollution, and a bewildering array of harmful and even toxic substances in the environment. Taken together they are changing the very conditions of life for humans as well as other species on Earth.

We believe that solutions lie in the same processes that led to the problems, that the ingenuity and determination that have built a strong Ontario and a strong Canada can be harnessed in the cause of sustainable development. But we cannot over-emphasize the urgency of acting widely across all fields and in ways that will affect the very heart of modern society. It is not a question of whether to act — that will be forced on us all sooner or later — but how to act and how soon.

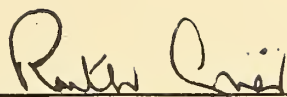
Finally, we recognize the economic changes that have occurred, from the prosperity at the beginning of our mandate in 1988 to the severe recession in which we find ourselves in 1992. This has led us to be particularly prudent and practical. While some actions can and must be started soon, the strategy addresses the reality of phasing in change throughout the 1990s.

As well, we consistently recommend that new steps towards sustainability be taken within existing budgets, by combining, changing or reducing current activities, especially those that do not lead to sustainability. It is important to recognize, however, that inaction will not lead to savings; on the contrary, existing wasteful and harmful practices cost Ontario billions of dollars and limit future choices. Business-as-usual will become increasingly expensive business.

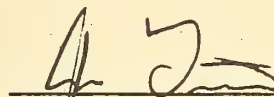
In reviewing the recommendations, members of the Round Table find that they are directed, almost equally, to government, to a single industry or sector, or to many industries, sectors, and individuals acting together. This, we believe, is an accurate reflection of the reality that the problems are complex and inter-related and the solutions will require similarly concerted efforts on all parts.

Government certainly cannot do it alone. Nor can companies and industry. The fact is that decisions — personal as well as professional, individual as well as collective — will determine our environmental/economic future. With this very much in mind, we present this report not to government alone but through government to groups, organizations, and communities — to the people of Ontario.


By consensus of all members of the Ontario Round Table on Environment and Economy, we sign this strategy as a symbol of our commitment to the people of Ontario in their pursuit of sustainable development.



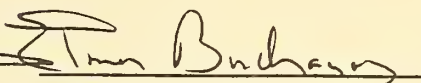
Ruth Grier, Chair



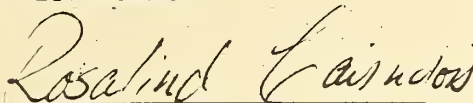
Jon Grant, Vice Chair



Ted Boswell



Elmer Buchanan



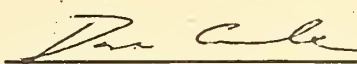
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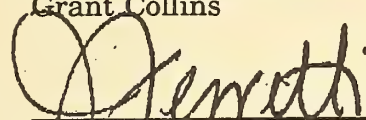
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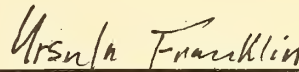
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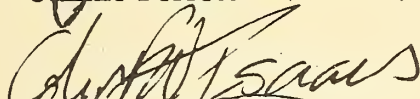
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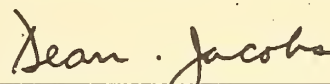
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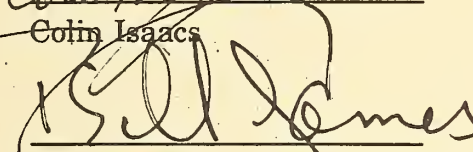
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Bill James



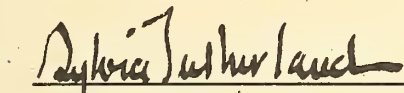
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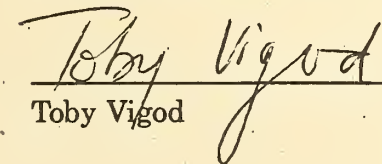
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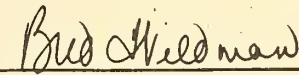
Sylvia Sutherland



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TABLE OF CONTENTS

Executive Summary	vi	Sharing Information	23	Recommendations for Moving Forward Together	44
Recommendations	viii	Obtaining Better Information for Sustainability	24	Strategic Direction 4: Ensuring Accountability	45
Restructuring For Sustainability	1	Indicators of Sustainability	27	Preparing For Accountability	45
Background	2	Educating Society, Formally and Informally	29	An Accountability Checklist	45
The Ontario Round Table	2	Linking Information to Action	29	Taking Responsibility	45
Six Principles of Sustainable Development	4	Sectoral Views	30	Institutions	46
How the Round Table Operated	6	Recommendations for Improving Decision-Making:	33	Communities	47
Strategic Directions	9	Strategic Direction 3: Moving Forward Together	36	Aboriginal People	47
Strategic Direction 1: Greening Ontario's Economy	10	What Consensus Building Accomplishes	37	Individuals	48
Where We Are Now	10	Meeting Public Expectations	37	Sectoral Views	49
Moving to Sustainability	11	Consultation	37	Recommendations for Ensuring Accountability	50
Forces in Moving to Sustainability	13	Building Consensus	38	Global Warming: A Case Study	52
Adjusting to Sustainable Development ...	14	Aboriginal People	39	Introduction	52
Sectoral Views	15	Communities	41	Application of the Principles of Sustainable Development	53
Recommendations for Greening Ontario's Economy	19	Sectoral Views	42	Recommendations for Dealing with Global Warming	56
Strategic Direction 2: Improving Decision-Making	23			Conclusion	59

APPENDIX 1: Members of The Ontario Round Table on Environment and Economy	60	Opportunities and Economic Instruments, by Tony Cassils	65	Agriculture and Food Sectoral Task Force: Final Report	69
APPENDIX 2: Policy Papers and Seminar Report Summaries	62	Study of the Economic Value of Environmental Damage in Ontario, by Carl Sonnen and Mark Haney	66	Energy and Minerals Sectoral Task Force (Energy Sector): Final Report	69
Conflict Resolution and Sustainable Development: An Alternative Dispute Resolution Policy for Ontario, by Rachel Ralston Baxter	62	Seminar: Corporate Reporting for Sustainable Development	66	Forestry Sectoral Task Force: Final Report	70
Environmental Impact of Farm Support Policies in Ontario, by John Girt	63	Seminar: Economic Restructuring for Sustainable Development: Perspectives from Europe and Japan	67	Manufacturing Sectoral Task Force: Final Report	71
Integrating Sustainable Development into Workplace Governance, by John O'Grady	63	Seminar: An Environmental Information Policy for Ontario	68	Energy and Minerals Sectoral Task Force (Minerals): Final Report	72
Reporting on Sustainability: Human Well-Being Within Ecosystem Well-Being, by R. A. (Tony) Hodge and Ingrid E. Taggart	64	APPENDIX 3: Task Force Report and Native People's Circle Report Summaries	69	Transportation Sectoral Task Force: Final Report	73
				Urban Development and Commerce Sectoral Task Force: Final Report	74
				Native People's Circle on Environment and Development: Final Report	75

EXECUTIVE SUMMARY

If Ontario is to prosper, it will have to restructure for sustainability, reshaping its economy to reflect environmental costs and values. Traditionally, such costs have not been included in analyses of products, services, or in the overall economy. But all products and services — from computers to tourism — have an environmental component. Moreover, traditional responses to environmental problems — react and cure strategies — are no longer adequate. It is essential now to anticipate and prevent obstacles to sustainable development.

Moving to a greener economy will have different consequences for different areas, sectors, and levels. These can be borne, if they are shared fairly and as long as there are plans and programs to deal with the adjustments that will be necessary.

Restructuring for sustainability will involve everyone: it requires companies to use and manufacture more efficient and innovative goods, involving fewer resources, and offering better value. It means that government is, and will continue to be, held to higher environmental standards in its energy consumption and purchasing policies. It means that individuals have to recognize that the products they buy and use have environmental consequences.

But if companies are to make better products, government is to meet the highest environmental standards, and people are to buy and use wisely; they must have accurate, reliable, and up-to-date information on which to act. At present, however, a great deal of information is not standardized, readily available, or being shared. Government and business must not only utilize better information from many sources, they themselves must generate and disseminate more useful, detailed information related to the environment, whether (in government) through the Legislature or (in business) through annual reports. Once produced, data must be widely disseminated.

If we are to shift to a more environmentally responsive economy, there is a fundamental need to change the way decisions are made. Improved decision-making, however, depends on an environmentally literate society, one in which education — formal and informal — makes groups and individuals aware of environmental issues.

Today, people expect to have a say in decisions that affect them, at home or in the workplace. Therefore, decision-makers must ensure that there is broad consultation with all interested parties before environment-related decisions are made.

The round table concept is an important element in the consultation process. It is a forum in which all interests are represented in a non-hierarchical setting (thus, the “round” table) so that people, even those with vastly divergent views and interests, can come together to reach consensus on a vital issue that affects all people and all interests.

Consensus-building, through a round table or other structure, is not decision-making, but it is a useful prior step that offers parties an opportunity to define areas in which they can agree, and to resolve differences, to the greatest degree possible, in areas in which they cannot. A round table may be broadly based, as in the case of the federal and the various provincial round tables in Canada, or it may be created within a single workplace.

A real consensus has been reached when there is unanimous agreement and the decision is supported by all those who participated in it. However, consensus can also be said to have been reached if there is no fundamental disagreement with the decision or if general agreement has been reached, with the rider that some areas need further consideration.

While all participants may not agree with all elements of the decision, they are willing to live with the decision as being preferable to the alternative.

The Ontario Round Table on Environment and Economy was both a pioneer and an example of what is becoming the traditional round table. Its members were drawn from all those with a stake in its conclusions and recommendations: government, business, the native community, industry, academia and environmental groups. An earlier basic

document, the Challenge Paper, which described the group's strategy development process, was developed by the Round Table and set the stage for a series of policy and research papers; sectoral task forces; a Native People's Circle; and involvement by local round tables.

Task forces were established in agriculture and food, energy and minerals, forestry, manufacturing, transportation and urban development, and commerce. They were asked to report to the Round Table on how, according to each sector, work could begin on sustainability. Drafts of each task force were reviewed by key groups and parties.

The Round Table also established a Native People's Circle to ensure that it reflected an Aboriginal perspective — thereby acknowledging that the efforts of Aboriginal people to preserve and apply their values are an important aspect of moving toward sustainability.

Broader-base consultation, improved information, and changes in decision-making can lead to the sustainable development necessary for Ontario's economic well-being. There is one other factor in achieving that goal: accountability.

Government can be held accountable in the Legislature and, more broadly, at the ballot box. Companies can establish environmental committees as part of their board structure or workplace round tables, in order to ensure that operations are environmentally responsible.

Ultimately, of course, we are individually accountable for our decisions and activities as they affect a sustainable development environment and we are accountable, not only to each other, but to future generations.

RECOMMENDATIONS

RECOMMENDATIONS FOR GREENING ONTARIO'S ECONOMY

The Round Table believes the following actions are needed to ensure that sustainability is built into all the economic decisions in Ontario, from daily purchases to long-term planning.

1.1 High Performance Standards

A. The Round Table recommends that the Government of Ontario set as its target reducing the economy's energy intensity — the amount of energy used for each constant dollar of real gross domestic product — by three per cent per year for the next 10 years. Government, business, labour, communities, and other stakeholders should work together to create ways of ensuring that a target of a three percent decline in energy used per unit of output is met in each sector. This will be a key component of overall sustainability strategies for sectors and government ministries. Similar efficiency targets should be established for other resources.

B. The Round Table recommends that the Government of Ontario end the release of persistent bio-accumulative toxic substances by the year 2000; by the end of 1994, each sector should have developed plans to meet this goal.

C. The Round Table recommends that the Government of Ontario act to protect Ontario's land base by preparing a provincial policy framework for sustainable development. In particular, it should protect agricultural and environmentally sensitive lands such as biological or wildlife habitats and heritage lands. This could be done by:

- setting provincial policies, standards and guidelines for municipalities;
- undertaking planning on an ecosystem basis;
- encouraging more intensive development within urban areas; and requiring municipalities to incorporate this into long-term land-use and transportation plans;
- introducing new mechanisms to preserve those lands most under stress;
- undertaking mapping programs to identify sensitive and protected areas; and
- ensure that financial programs do not encourage urban sprawl.

1.2 Full-Cost Pricing and Market Incentives

A. The Round Table recommends that, working with stakeholders, the Government of Ontario review its tax policies and other financial and economic programs, to ensure that all incentives and disincentives support sustainability, in particular full-cost pricing of use of resources.

B. The Round Table recommends that municipalities move to pricing water at full cost, in order to improve efficient use and reduce demand for infrastructure and service. Two interim steps should be taken by municipalities as they move to close the gap between the cost of water and the price charged for it: pilot projects should be conducted on metered full-cost pricing of water; and non-payable statements should be sent to consumers to make them more cost-aware. Based on the success of the pilot projects, full-cost pricing should be introduced for water use in housing, commerce, industry, and power generation. Such pricing should take into consideration issues of social equity, industrial competitiveness, and other factors.

C. The Round Table recommends that the Government of Ontario evaluate a system of financial incentives to encourage sustainability. This should include: fees, subsidies, deposits/refunds, performance bonds, and tradable emission permits. This should be done jointly with all stakeholders and be as financially neutral as possible — with little or no additional overall costs to government, business, communities, or households.

1.3 Research

The Round Table recommends that the Government of Ontario should encourage and support partnerships among government, industry, employees, universities, communities, and other stakeholders. Partners should redirect existing funds from unsustainable activities to the areas of:

- technological innovations for sustainability;
- pre-competitive research of sustainable products and processes;
- research pilot projects and case studies; and
- evaluation of professional and technical skills needed for a green economy.

1.4 Adjusting to Sustainability

The Round Table recommends that government, business, labour, and communities plan jointly to upgrade traditional industries in order to make them sustainable and develop new industries that have a minimally negative or even a positive effect on the environment. Such planning should focus especially on skills upgrading and training of current workers. The Government of Ontario should set this as a goal in moving to sustainability, in order to improve the well-being and minimize the losses experienced by stakeholders.

1.5 Infrastructure

A. Built Infrastructure

The Round Table recommends that full-cost pricing (discussed in recommendation 1.2.A and 1.2.B) and financial incentives (1.2.C) be employed to make the best use of existing water, sewer, power, transportation, building, and other current infrastructure and as the basis for assessing the need for new or additional infrastructure.

The Round Table recommends that the Government of Ontario require creation of urban forms that will result in reduced urban sprawl and more efficient public

transit. This should also stimulate new development and export opportunities for new transportation technologies and techniques.

In conjunction with telecommunications suppliers and users, the Government of Ontario should make joint plans for investing in the electronic infrastructure of the future. This could include pilot projects on telecommuting (using computers to work at or closer to home) and expansion of public and private-sector services to rural and remote communities.

B. Natural Features

Natural features are as important as built infrastructure to Ontario's ecology and economy. The Round Table recommends that restoration and preservation of natural features include:

- initiatives by government and business to restore and preserve resources that are the bases of the forestry, mining, tourism, and other industries;

- completion by the Government of Ontario of the selection process for representative wild areas, and, by the year 2000, the development of mechanisms for protecting these areas; and
- establishment by the Government of Ontario, by 1994, of explicit quantitative objectives for biodiversity and wildlife habitat.

1.6 Investment

- A. The Round Table recommends that all public corporations be required to report annually on their compliance with environmental laws, regulations, standards, and guidelines for emissions to air, water and land and their generation and management of hazardous wastes. Documents for potential investors should provide all relevant information on compliance with environmental laws and regulations and on potential environmental liabilities. These documents also should describe sustainability objectives and the actions to be taken to achieve them.

- B. The Round Table recommends that the Government of Ontario encourage the flow of investment into sustainability ventures by allowing accelerated capital depreciation in its tax system. Qualifying criteria should be based on the six principles set out in this strategy.
- C. The Round Table recommends that the Government of Ontario redirect money from less sustainable programs in order to offer more support for "green" technologies.

1.7 Aboriginal Enterprise

- A. The Round Table recommends that the Government of Ontario and other stakeholders respect and support efforts by Aboriginal communities to preserve their culture and develop their economies by:
- supporting the development of community sustainability plans for their local economies;
 - developing programs for culturally appropriate training and employment and to preserve land-based ways of life; and

- creating joint ventures and co-management agreements in resource sectors.

- B. The Round Table recommends that "EcoEnterprise" courses be jointly created and offered by Aboriginal communities, business, universities, and colleges to develop Aboriginal expertise in economics, small business, and ecology. These courses should be based on Aboriginal knowledge of natural systems and aimed at supporting economic success in sustainable resource-based enterprises in Aboriginal communities.

RECOMMENDATIONS FOR IMPROVING DECISION-MAKING:

The Round Table believes the following actions are needed to ensure that more informed decisions for sustainability are made by individuals and organizations.

2.1 Information System

The Round Table recommends that the Government of Ontario develop an integrated information system, incorporating indicators of sustainable development, to measure progress towards sustainability. Such a system should meet the needs for more thorough, reliable methods of

reporting on sustainability and for co-ordinated, relevant collection and measurement of data. As far as possible, this should be done using existing resources and co-operation among government ministries and agencies.

2.2 Consumer Information

The Round Table recommends that Ontario consumers be provided with product labelling and other forms of information about the environmental impact and sustainability of product and services. Where possible, this step should be co-ordinated with other jurisdictions.

2.3 Aboriginal Knowledge

The Round Table recommends that the Government of Ontario explicitly recognize and respect the ways in which Aboriginal knowledge can help Ontario move towards sustainable development. Therefore, the Government of Ontario, educators, the academic community, and other stakeholders should work with Aboriginal people to integrate their knowledge with scientific knowledge, as appropriate, in education, training, and decision-making.

2.4 Corporate Disclosure

A. The Round Table recommends that industrial sectors and regulatory agencies jointly develop guidelines for voluntary corporate reporting and disclosure by 1993. This information should include, but not be limited to:

- compliance with environmental laws and standards;
- performance, measured against accepted sustainability indicators for the given industry;
- use of materials (virgin, recycled, toxic); and
- the efficiency with which resources are being used.

Such information should be part of corporations' annual reports to their shareholders.

B. The Round Table recommends that business be required to record and release inventories of toxic contaminants disbursed into air, land, and water, as called for in the National Pollution Reduction initiative.

2.5 Performance Standards

A. The Round Table recommends that all industrial sectors develop environmental codes of practice, by which their members must abide. This can be achieved through consensus building among stakeholders. Such codes should include:

- efficient use of resources;
- policies on air, water, and land pollution;
- policies on waste management; and
- information being provided to employees, customers, and the local community.

Chief executive officers should be required to sign these codes of practice as a condition of company membership in their associations. Such codes should be in place for large businesses by 1995 and for all small businesses by 1998. Joint employee/management committees should be set up to review corporate sustainability performance.

RECOMMENDATIONS FOR MOVING FORWARD TOGETHER

- B. Before making funding commitments, all businesses should analyze major capital projects for sustainability. Towards this end, professional associations and firms should develop standard sustainability analyses to guide companies in carrying out this process.

2.6 Information Sharing

The Round Table recommends that companies establish mechanisms to share information with employee and community groups on the environmental effects of their local operations.

Industry associations should encourage companies to share non-confidential information on:

- "clean" process and product technology;
- successful waste management practices; and
- methods to increase efficiency.

2.7 Education

The Round Table recommends that educators, government, business, unions, and professional associations work together to develop a provincial framework for education in sustainability, one that crosses traditional disciplines.

A. Formal Education

Within this framework, courses, curricula, and materials should be developed for schools, colleges, and universities. The principles of sustainable development should be incorporated into existing courses. Specific courses in sustainability could be added to the requirements for all those seeking diplomas and degrees in engineering, technical, and other professions, including communications, journalism, and teaching.

B. Informal Education

Information and education programs on sustainable development should be developed and delivered to and through consumer, workplace, community, and other organizations, and through the media.

The Round Table believes the following actions are needed to ensure Ontario citizens full and meaningful roles in restructuring for sustainability.

3.1 Building Consensus

The Ontario Round Table recommends that the Government of Ontario continue to provide a forum for building consensus on sustainability among all major stakeholders.

3.2 Public Input

The Round Table further recommends that the Government of Ontario ensure opportunities for the broadest public input, within reasonable timelines, when it is preparing to set standards, pass regulations, or create guidelines.

3.3 Common Future Foundation

The Round Table recommends that the Government of Ontario, along with Aboriginal governments, industry, and labour, jointly and voluntarily plan and invest in a Common Future Foundation. Such a foundation should be designed to encourage and support new partnerships and new techniques that result in sustainability. In particular, it should be the venue for

RECOMMENDATIONS FOR ENSURING ACCOUNTABILITY

demonstration programs and community projects. For example, communities might be challenged to make proposals for projects that demonstrated local sustainability.

3.4 Local Round Tables

The Ontario Round Table recommends that cities, towns, and regions throughout the province create local Round Tables. These should be fully representative, seek consensus on issues affecting sustainability, and provide advice on local development. Such advice should be integrated into municipal decisions. In order to participate as equals, local people may need access to information and other resources.

3.5 Workplace Round Tables

The Ontario Round Table recommends that joint Round Tables, comprising representatives of management and employees, be set up in workplaces, to ensure the development of a common understanding of opportunities and constraints related to sustainability.

3.6 Self-Government and Sustainability

The Round Table recommends that negotiations on Aboriginal self-government give priority to ensuring that the results contribute to sustainability. The six principles in this strategy, and use of sustainability indicators would be useful in this regard.

3.7 Aboriginal Co-management of Resources

A. The Round Table recommends that Aboriginal First Nations be empowered to document, monitor, and implement their traditional resource use methods to encourage conservation.

B. It further recommends that co-management agreements be fostered between Aboriginal communities and the Government of Ontario, as a method of achieving sustainable development. Similarly, when an Aboriginal land claim has been accepted for negotiation, the Government of Ontario should continue to make interim or other arrangements with the Aboriginal community to ensure responsible management in areas of land identified for possible inclusion in the settlement.

The Round Table believes the following actions are needed to ensure people and organizations are encouraged to make decisions for sustainability and are held more fully accountable for their decisions.

4.1 Commissioner of Sustainability

The Round Table recommends that the Government of Ontario establish an office of Commissioner of Sustainability, equivalent in stature to the Provincial Auditor. Based on a set of appropriate indicators, the commissioner would report on Ontario's efforts to achieve sustainable development, including the initiatives in this strategy. A commissioner should be appointed by the provincial legislature by 1994 and begin making annual reports to it in 1995. The reports should be timely, thorough, understandable, and authoritative. They should include, among other things, the measurable costs of inaction.

4.2 Cabinet Review

The Round Table recommends that all proposals requiring Cabinet approval be analyzed in terms of their environmental and economic sustainability. The Cabinet Office or other designated agency should also have a mandate to:

- develop, by 1993 and in co-operation with all relevant ministries and Crown agencies, a common set of criteria to be applied to all proposals for new policies and programs, beginning in 1994;
- ensure consistent use of such criteria by all ministries and crown agencies; and
- beginning in 1994, analyze the environmental implications of all provincial budgets, the analysis and budget to be tabled simultaneously.

4.3 Sustainability Strategies

The Round Table recommends that, by 1995, every ministry and Crown agency be required to develop a strategy for sustainable development; this should be done in co-operation with its clients and other stakeholders, should be based on the Round Table strategy, and should include the criteria described earlier. After the strategy has been approved by Cabinet, all new programs, policies, laws, and other activities should comply with it and all existing programs, policies, laws, and other activities should be reviewed for compliance by 1997. Any non-sustainable activities should have specific expiry ("sunset") dates.

4.4 Environmental Committees and Boards

The Round Table recommends that public and private companies establish environmental committees of their boards of directors.

RECOMMENDATIONS FOR DEALING WITH GLOBAL WARMING

Ontario's private and public sectors have already undertaken an impressive array of activities that will substantially reduce emissions of greenhouse gases. Nonetheless, they are expected to fall short of the Canadian government's goal of stabilizing greenhouse gas emissions at 1990 levels by the year 2000 — a goal the Government of Ontario has endorsed. Clearly, more action will be required to improve air quality and protect our climate.

There is a significant body of literature on global warming including a multitude of recommendations. The Round Table has identified a number of priority recommendations for Ontario, organized into eight broad areas.

5.1 Targets

The Round Table recommends the following targets and timetables for reducing greenhouse gas emissions in Ontario:

- A. Greenhouse gas emissions must be stabilized, then reduced, below the 1990 level by the year 2000. Further research and development on the causes and effects of global warming should also be initiated.
- B. Carbon dioxide emissions must be reduced 20 per cent by 2005 and between 70 and 80 per cent by 2030.
- C. An 80 per cent reduction in global emissions from fossil-based fuels is needed by the year 2030 if the composition of the atmosphere is to remain as it is now.

5.2 Energy Production and Distribution

- A. The Round Table recommends that the Government of Ontario require the Ontario Energy Board (OEB) to adopt a "least-cost" planning approach, which means that the most cost-effective mix of energy supply and demand management options be favoured, and that the Government give the OEB authority over electrical utility rates, in order to encourage energy efficiency.

- B. The Round Table recommends that the Government of Ontario institute a system of economic incentives/disincentives to increase the use of renewable biomass energy and promote development of technologies and facilities for non-carbon energy sources such as solar, wind, and hydro-electric.

5.3 Energy Conservation

- A. The Round Table recommends that the Government of Ontario review and revise the provincial building code on a biennial basis, to emphasize more stringent energy conservation.
- B. The Round Table also recommends that the provincial building code be amended to include an R2000 insulation standard for all new residential housing, plus more stringent building and lighting standards for the commercial sector.
- C. The Round Table recommends that the Government of Ontario raise the profile of the *Energy Efficiency Act* and expand its scope to include a variety of residential products not now covered, and that it cover commercial and industrial equipment as well.

5.4 Transportation

- A. The Round Table recommends that the Government of Ontario increase taxes and rebates to purchasers of new vehicles under the Tax for Fuel Conservation ("gas guzzler tax") with taxes and rebates scaled to the fuel efficiency of the vehicle.
- B. The Round Table recommends that the Government of Ontario, in consultation with the petroleum industry, vehicle manufacturers, steel recyclers, and other stakeholders, develop and implement an incentive program for scrapping old vehicles.
- C. The Round Table recommends that the Government of Ontario encourage the Government of Canada to work with vehicle manufacturers to implement a more stringent corporate average fuel consumption standard.
- D. The Round Table recommends that the Government of Ontario, in consultation with farmers and other stakeholders, implement programs to expand the use of Ontario-cultivated ethanol as an octane enhancer in gasoline (as well as encourage other biomass energy applications).

- E. The Round Table recommends that the Government of Ontario develop a province-wide strategy for increasing urban densities, restricting the loss of farm land and natural areas to urban growth and for creating opportunities to live close to work.
- F. The Round Table recommends that the Government of Ontario and of Metropolitan Toronto develop and implement a plan to double public transit ridership in the GTA by the year 2005.
- G. The Round Table recommends that Ontario municipalities introduce more efficient transportation modes including: increased use of high occupancy vehicle lanes; employer-supported van/car pools; tailored parking fees; increased use of public transit, cycling and walking.
- H. The Round Table recommends that the Government of Ontario, in consultation with vehicle manufacturers, the petroleum industry, and other stakeholders, establish in-use vehicle inspection/maintenance/enforcement programs for all transportation modes.

- I. The Round Table recommends that the Government of Ontario, through its procurement practices, favour the use of energy efficient vehicles and vehicles that operate on alternative fuels such as natural gas, ethanol and electricity.

5.5 Industry

- A. The Round Table recommends that the Government of Ontario, in consultation with industry and other stakeholders, develop programs to reduce CO₂ emissions below 1990 levels by the year 2000.
- B. The Round Table recommends that the Government of Ontario, in consultation with Ontario Hydro, a number of energy-intensive industries, and other stakeholders, develop plans for technical and financial assistance to promote energy efficiency.
- C. The Round Table recommends that the Government of Ontario, in consultation with the forest sector and other stakeholders, promote increased forest growth through intensive silviculture, afforestation of treeless areas, improved forest protection and reforestation of harvested forests.

5.6 Controls on non-CO₂ Sources

- A. The Round Table recommends that the Government of Ontario require that CFCs used in the manufacture, service, and disposal of all mobile refrigeration and air conditioning systems, be captured and recycled.
- B. The Round Table recommends that the Government of Ontario begin developing regulations to (a) require owners of large landfills to install methane gas collection and flaring systems; and (b) require that landfills be designed and constructed to maximize the quantity of gas that can be recovered.
- C. The Round Table recommends that the Government of Ontario complete development of a plan for controlling nitrogen oxides and volatile organic compounds (which contribute to low-level ozone formation).

5.7 Market-Based Approaches

The Round Table recommends that the Government of Ontario work with other jurisdictions to implement market-based approaches to reduce CO₂ and other greenhouse gases.

5.8 Adaptation

The Round Table recommends that all governments develop plans for a climate that, despite our best efforts, is changing; this should include selecting appropriate tree species and meeting changing energy demands.

RESTRUCTURING FOR SUSTAINABILITY

RESTRUCTURING FOR SUSTAINABILITY

The many changes that are taking place in modern society are connected by a common thread: the need to restructure. This means being willing to take ideas, attitudes, and actions apart and to re-create them, so that they make sense for the world, not as it was or we wished it were, but as it is now. Only then will we make decisions that are wisest in terms of future needs.

The work of the Ontario Round Table is, we believe, both a signal and a benchmark in that process. Its members believe that we have an unprecedented opportunity and an obligation to put the economic, environmental and social pieces together to restructure for sustainable development.

There are urgent reasons for doing so. Environmentally, the changes emerging are not merely of degree but of kind: not just more incidents of isolated pollution, but structural shifts in very large ecosystems — the climate, the oceans, the food chains — that support life itself.

Economically, restructuring is seen as disrupting familiar patterns of work and trade and forging new links across borders and sectors.

In Ontario, such structural change is further complicated by the current recession.



Socially, restructuring is emerging as the result of serious rethinking of basic elements of everyday life: at home, at work, in education and training, health care and other social systems, in culture and community.

Some changes are being driven by the economy, some by the environment. Some will have costs, others benefits, and these will need to be evenly distributed. All profoundly affect our society and all are at the heart of the term sustainable development. The United Nations report which popularized this phase, defines it as:

Development that meets the needs of the present without compromising the ability of future generations to meet their own needs. (World Commission on Environment and Development, *Our Common Future*, April 1987.)

This is the “good news” of sustainable development: an opportunity to restructure our economic and environmental concepts to ensure the long-term sustainability of society.

It is a way of achieving a cleaner, more efficient economy, one that avoids costly environmental crises and clean-ups. It rejects the pessimism that sees the future as a dreary incarnation of the past or as an inevitable catastrophe. Instead, it looks to the future as being filled with possibilities, given human willingness to act rationally and carefully now.

Moreover, sustainable development can lead to economic prosperity: as efficiency and innovation become the engines of our economy, they provide direct economic returns here, and provide the basis for marketing goods and services abroad as well as at home.



Finally, sustainable development is not just one issue among others — poverty, illness, pollution, employment, and productivity, for example. While each is serious and challenging, sustainable development is the context in which all these and other problems will have to be addressed. Our ability to do so depends on the well-being of our economy; it, in turn, is a fundamental determinant of the health of people. But both a prosperous economy and a healthy people depend on a healthy environment.

Nor is sustainable development another phrase for environmental protection, which is necessary, but inadequate to achieve development that is sustainable.

Environmental protection is added on, but not necessarily linked, to our policies on trade, taxes, jobs, energy, industry, mining, forestry, farming or fishing. Sustainable development, on the other hand, is the new context in which environmental, tax, trade, resource, industrial, agricultural and social policy is established.

BACKGROUND

In 1972, increasingly uneasy with mounting evidence of environmental damage — ranging from contaminated water to the disappearance of animal and plant species — the United Nations held a historic conference in Stockholm, Sweden: The United Nations Conference on the Human Environment. The first truly global conference on the subject, it marked a turning point in the development of new institutions and new initiatives to cope with serious environmental problems around the globe. It also led to the creation of the United Nations Environment Program (UNEP) and encouraged governments everywhere to set up environmental protection programs.

It was also increasingly apparent that, like such ecosystems as the atmosphere and the oceans, national economies were interconnected. That being so, the United Nations made the link between the existing worldwide environment and the emerging worldwide economy.

In 1983, the UN recognized that more detailed analysis was necessary and established the World Commission on Environment and Development. After three years of research, hearings, and deliberations, that body published its final report, *Our Common Future*, in 1987. In response to the request of the United Nations General Assembly, Norway's Dr. Gro Harlem Brundtland and her 21 colleagues from around the world proposed a

new era of economic growth based on the concept of sustainable development.

Canada had been a strong and early supporter of Brundtland (it was only one of four countries worldwide in which the Commission held public consultations) and, with the publication of *Our Common Future*, the Canadian Council of Resource and Environment Ministers (CCREM, now the Canadian Council of Ministers of the Environment) established its National Task Force on Environment and Economy. The group — 17 government ministers, corporate executives, and environmental leaders — was set up to “foster and promote environmentally sound economic development”.

In its report to CCREM in September 1987, the Task Force emphasized the central importance of sustainable development to continued economic prosperity, both within Canada and throughout the world. It urged that national, provincial, and territorial Round Tables on Environment and Economy be created to bring together senior decision-makers from all sectors. These would be consensus-seeking groups, like the Task Force itself — symbols of co-operation, as opposed to the more traditional, and more confrontational, “across the table” mechanisms. Working co-operatively, people could develop a strategy to integrate the environment with the economy at all government levels and across the private sector.

THE ONTARIO ROUND TABLE

Ontario responded quickly: the Ontario Round Table on Environment and Economy was created as an advisory body to the Premier and members began work on developing a strategy for sustainable development in Ontario. Membership was broadly based. Not simply focused on the environment, it included resource and economic ministers, industrialists, academics, and environmentalists, labour and community leaders.

The Round Table has operated within the framework of the mandate given it by the Government of Ontario, in order to meet three key objectives:

- to establish a framework and to guide and co-ordinate the development of a provincial strategy for sustainable development;
- to develop an outreach program to enhance the knowledge and awareness of the principles of sustainable development; and
- to undertake and support research needed to highlight and reinforce the principles of sustainable development.

The basic assumption of Ontario Round Table members — one that, despite obstacles, has been borne out by the process — is that it is possible to build a multi-sectoral consensus and to create partnerships among interests with differing views. The Round Table acts as a forum in which

people can exchange their experiences, ideas, and attitudes; by doing so, of course, they also broaden the range of possible solutions and, therefore, offer a much greater number of possibilities for ensuring sustainable development in Ontario.

Moreover, the round table concept clarifies responsibility for the decisions that must be made and that will affect not only development and the environment, but all aspects of life in Ontario. Given that the environment and the economy are intricately connected systems, and that all groups and individuals in society make decisions that affect both, it is clear that all stakeholders must be heard — and must hear each other.

As a result, the strategy developed by the Round Table represents a comprehensive, integrated, and workable approach to sustainable development for Ontario. Its usefulness may be judged by the fact that some dozen local round tables have been started across Ontario and that the Ontario Round Table has been consulted as a resource for establishing similar bodies in several areas in the United States.

The foundation of work done by the Ontario Round Table on Environment and Economy and, therefore, the theme of this report, is the desire to build an Ontario society characterized by:

- its ability to support future generations;
- the good quality of its air, water, and lands;
- the availability of jobs in viable industries that make efficient, innovative use of energy and materials;
- well-planned, waste-free, congenial communities where citizens are active and have access to our woods and waters; and
- recognition that our environmental, economic, and social systems are inseparably linked.



BELL CANADA is taking a number of steps to build sustainability into its corporate structure and to work with its customers, suppliers, and other partners.

It is testing a two-way envelope to eliminate the inner envelope in customers' billings. The redesign will require new machinery costing \$ 200,000. But Bell says, it will save \$ 800,000 a year because half of the inner envelopes now sent out are not even used by customers who pay by teller or bank machine.

The company diverts 10,000 tonnes of telephone directories from municipal landfill to a Quebec recycling mill, which turns them into paper towels and toilet paper that it sells back to Bell.

In its own buildings, Bell is rethinking its activities at-source: "Why should we have any waste?" A pilot project in one office building with 1,200 employees aims

to cut its 317 kg/day waste to only 5 kg/day. All materials are recycled. All one-use items have been eliminated. Air dryers have replaced paper towels. Composting bins are on every floor (contents then go to on-site digesters). Digital signs at the entrance flash: "You are now entering a zero-waste facility". The program so far has cost Bell \$ 40,000, but Bell estimates its annual savings at \$ 80,000.

The company is not only greatly reducing waste materials at-source in its own facilities, but has asked its eight major suppliers to do so as well. For example, one has switched from shipping its connectors in 1,000 boxes to bulk packing them on pallets. The small but symbolic savings are split between buyer and seller.

Bell is partnering with municipalities by offering to print their environmental messages on its customers' phone bills and by preparing a free user's manual on its zero-waste program.

SIX PRINCIPLES OF SUSTAINABLE DEVELOPMENT

The Ontario Round Table members believe that these goals are attainable, based on six fundamental principles that resulted from the Round Table's research and consultations:

1. Anticipating and preventing problems are better than trying to react and fix them after they occur.
2. Accounting must reflect all long-term environmental and economic costs, not just those of the current market.
3. The best decisions are those based on sound, accurate, and up-to-date information.
4. We must live off the interest our environment provides and not destroy its capital base.
5. The quality of social and economic development must take precedence over quantity.
6. We must respect nature and the rights of future generations.

ANTICIPATION AND PREVENTION

Early environmental action, such as it was, was simply a response to crises — usually air and water pollution; it most often took the form of 'end of pipe' treatment by industry and after-the-fact government clean-ups carried out at public expense. But,

in environmental as in personal health, it is more efficient and effective to prevent illness than to try to cure it later.

Given the integral role of the environment in all stages of the economy — from the woods to the workplace, from the boardroom to the classroom — environmental matters must be part of the agenda rather than a mass of problems to be fixed later. This requires an informed public with access to useful information, able to contribute to the thoughtful strategies and plans needed to guide our many actions.

Environmental considerations must be at the heart of economic strategies and decision-making, and they must result in accountability to and by all responsible stakeholders.

SCOTT FARM, near Ripley, is a 300-hectare corn, soybean, and wheat operation at the forefront of sustainable agriculture. The Scotts began experimenting with more environmentally-sensitive practices in 1983 and began carrying them out in 1987.

Scott Farm practises ridge tilling, which uses smaller amounts of expensive fuel, machinery, and fertilizer. Small ridges rather than whole fields are tilled and planted in spring. The ridges dry faster in the wet spring and can be planted earlier. The small area also uses less herbicide and pesticide. It also holds moisture better, so

FULL-COST ACCOUNTING

Our natural assets — air, water, land, forests, wildlife, minerals — are the basis of the lives and economies of humans. They will be needed to support a world population that is still growing and they should be valued as the precious resources that they are. This means that their inherent value must be clarified more precisely, so that people can understand and incorporate this new understanding into their lives.

Traditional accounting evaluates manufactured assets, such as buildings and equipment, but not natural assets. Market prices seldom include external costs such as the damages caused by pollution or replacing depleted resources. Building these costs into accounts will lead us to use resources more efficiently and more effectively.

less irrigation is needed. The Scotts rotate the three crops on the ridges every year, and the healthier plants need less insecticide.

They are also trying strip cropping on 60 hectares. Five-metre-wide strips of each crop are planted in a series of little fields: corn in one, soybeans in the next, and wheat in the third. Each year the procedure is moved one field over and repeated. Although yielding less at first, these mini-fields have more growing space for corn at the edges. In 1991, the cost reduction was approximately \$ 50 per hectare.

INFORMED DECISION-MAKING

The principle of full-cost accounting focuses on the user of a public resource as the party responsible for paying its full, true cost; one way of doing this is by removing subsidies and incentives for non-sustainable economic activities.

Applying this principle can mean greater economic efficiency now and conservation of the resource base for its inherent value and for future generations. It is only practical, however, to recognize that, in many countries including Canada, full-cost accounting for resources is just in its infancy.

Ontario can and should show leadership in this area, but we must be aware of opening too-large gaps between our own standards and those of our main global competitors for resource-based goods. At the same time, however, we must be aware of the unacceptable costs of inaction: wasteful and harmful practices that are already a charge on the province's finances, resource base, and its future.

As well, it is important to ensure that the transitional and longer-term costs and benefits of full-cost accounting are shared equitably. If different levels of society and different economic sectors perceive they are losing out, they will not take the steps necessary to achieve sustainability.

The purpose of information, research, reporting, plans, policies, and strategies is to ensure better decision-making about resource use by governments, organizations, groups, and individuals. To date, they tend to utilize more economic than environmental information in reaching decisions. This is one reason for the many environmental problems being experienced at present.



Sustainability means not only gathering and using both kinds of information, but integrating them so that economic and environmental goals become mutually supporting. This is true sustainability.

Being able to make wise decisions depends on having access to reliable, up-to-date, and accurate information, on which standards can be set, plans and policies formulated, and affected stakeholders consulted. Clear rules throughout the decision-making process are also needed: regulations, policies, codes of practice, goals and targets. These enable decision-makers to seek solutions, consult broadly and review findings thoroughly, and take responsibility for their choices, spending activities, and actions.

LIVING OFF THE INTEREST

Ontario's natural resources are a major part of its wealth which, although large, is — like any savings account — limited. To avoid environmental bankruptcy, resources must be used carefully, efficiently, and innovatively. Renewable resources such as trees, soil, and water must not be depleted if they are to be sustainable in the long term. Only by protecting our natural resource base can we expect future generations to be able to provide for their needs.

Beyond reducing use, such products as metals and plastics need to be reused and recycled. Every industry and community — as well as the province as a whole — must set specific targets and goals. Reaching them will require innovation, research, education, and efficiency. But all our ingenuity and energy will mean nothing if what we learn is not then practised throughout our society.

By definition, any use of non-renewable resources depletes whatever is left. Achieving sustainability will also involve a successful search for, and the use of goods and services that substitute renewable for non-renewable resources. Technological change also holds the promise of relieving pressure on the use of non-renewable resources.

In recent years, Ontario has made notable progress towards achieving sustainability — but we are still a long way from just living off the interest. In fact, we continue to use our capital at an alarming rate.

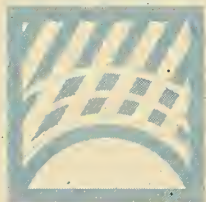
QUALITY OF DEVELOPMENT OVER QUANTITY

Sustainability means changing not just production and consumption, but attitudes and values. Already, we are seeing an increasing focus on quality in goods and services, lifestyles, and communities: people, especially in tougher economic times, expect products to be more efficient and durable, and hence less harmful to the environment.

The emphasis on quality over quantity need not mean any erosion of goods or services. On the contrary, more efficient products can provide the same or better results at reduced costs to both the environment and the economy.

That is already reflected in the availability of public and private goods and services that require less energy and fewer materials to make, have greater "value-added", and offer greater benefits to users. When they can no longer be used, many goods, from cans to paper to cars, are recyclable.

At the same time, people expect more say in issues that affect them, in which they have a legitimate interest. They are concerned about the quality of their community and their environment, and want the two to be integrated better.



RESPECT FOR NATURE AND THE RIGHTS OF FUTURE GENERATIONS

Although resources are the base of the economy, our rich and varied environment has value far beyond that role. Nature and its many life forms have inherent worth and an inherent right to exist. People, especially Aboriginal people, have strong cultural and spiritual links to the woods and waters in Ontario.

For both ethical and economic reasons, today's citizens are responsible for passing on an environment in as good or better condition than they inherited it. Future generations will depend on the material and cultural sustenance they can draw from the province's natural assets, and we have a heavy responsibility to safeguard our children's prospects.

Protecting natural assets means: understanding our environmental base; setting high public and private standards; sharing knowledge; and finding ways to build these considerations into our decisions.

In order to take any of the necessary steps, however, new mechanisms are needed to resolve issues among diverse interests, values, and lifestyles. Therefore, we must have more appropriate information and accountability for actions at every level.

HOW THE ROUND TABLE OPERATED

Having committed ourselves to a process of consensus-building, and with the six principles as a basis, as members of the Round Table we wanted to ensure that there were opportunities for all stakeholders, including the public, to participate in creating the strategy for sustainable development. Therefore, the Round Table established six sectoral task forces and a Native People's Circle to consult with the stakeholders and arrive at a consensus on the next steps to sustainability. To complement this work, priority was given to research projects designed to foster creative thinking and alternative perspectives associated with sustainable development.

The Round Table process comprised four key elements, beginning with publication of a Challenge Paper.

1. The Challenge Paper

Once a consensus had been reached, members of the Round Table released the Challenge Paper, in July 1990; it describes the group's strategy development process, based on the six principles of sustainable development. The Challenge Paper also set the stage for a set of policy and research papers; sectoral task forces; a Native People's Circle; and involvement by local round tables.



2. Policy Papers

The Policy Committee of the Round Table studied a number of specific issues, and convened three seminars, thereby generating the policy papers and seminar reports which are listed below, and which are summarized in Appendix 2:

- *Conflict Resolution and Sustainable Development: An Alternative Dispute Resolution Policy for Ontario*
- *Environmental Impact of Farm Support Policies in Ontario*
- *Integrating Sustainable Development into Workplace Governance*
- *Reporting on Sustainability: Human Well-Being within Ecosystem Well-Being*
- *Opportunities and Economic Instruments*
- *Study of the Economic Value of Environmental Damage in Ontario*
- *Seminar: Corporate Reporting for Sustainable Development (December 13, 1991)*
- *Seminar: Economic Restructuring for Sustainable Development (March 3, 1992)*
- *Seminar: An Environmental Information Policy for Ontario (March 6, 1992)*

In addition to these, a number of other background reports were prepared to assist the Round Table in its deliberations. One of these — *On the Way to Sustainable Development* — provides profiles of sustainable development initiatives underway in Ontario, drawn from organizations both large and small, and both public and private. Many of these profiles are summarized throughout this document. They should be seen as illustrative examples only, and the reader should not infer that companies described here are necessarily any better at applying the principles of sustainable development than are their competitors or any other organization.

3. Sectoral Task Forces

Because the needs of various sectors of Ontario society are different, and the six principles will affect each one differently, the Round Table set up sectoral task forces for agriculture and food, energy and minerals, forestry, manufacturing, transportation, and urban development and commerce. These groups were asked to report to the Round Table on the best way to begin working towards sustainability within their individual sectors, and in the context of the six sustainable development principles.

Establishing the task forces was a major step in understanding the links between the environment and the economy and the opportunities they offer. They provided an opportunity for people with a wide range of interests, opinions, and information, to understand and explain how and why environmental concerns need to be built into every facet of the economy.

At dozens of meetings across the province, task force members sought ideas from stakeholders, weighed various viewpoints, negotiated differences to find acceptable common ground, and reported to the Round Table. They highlighted issues of importance to them and to their respective stakeholders; identified areas of agreement and commitment to action amongst them; and made recommendations for dealing with specific issues.

4. The Native People's Circle

The Round Table established a Native People's Circle to help in its efforts to maintain an Aboriginal perspective on sustainable development, acknowledging the cultural and philosophical uniqueness of the first peoples of Ontario.



CONSULTATIONS

In the course of its work, the Round Table developed partnerships with all levels of government, with various private, public, and non-profit sectors, as well as with interested individuals. It carried out several types of consultations to allow members of the public to become directly involved with its operations and those of its task forces. It suggested that some organizations establish sustainable development codes of practice and, to assist them in doing so, published guidelines and other documents. The Round Table also encouraged and supported the establishment of local round tables. Drafts of task force reports were reviewed by key stakeholders and other interested parties. This final strategy document is the result of what Round Table members learned in the course of these various initiatives and after lengthy deliberations as a Round Table.



R.B.W. GRAPHICS of Owen

Sound prints glossy catalogues and magazines, but in 1990 made news of its own when it won the Ontario Waste Management Corporation's award for outstanding waste reduction performance. Two years earlier it had seen the writing on the wall: stricter environmental laws, much higher dumping fees, and harm to the pristine area where it has deep roots.

Some creative at-source thinking has solved several end-of-process problems:

Instead of trucking its 35 tonnes of waste ink a year to Sarnia, it has designed a \$ 100,000 filtering system that cleans and reuses 98 % of it. This has saved an annual \$ 160,000 in ink costs and \$ 15,000 in disposal fees, and produces a better quality ink.

It has switched from petroleum-based to plant-based ink.

It has converted all of its plate lines from solvent-based to water-based chemicals.

The printing company has challenged its suppliers, buyers, and employees to come up with answers that prevent problems, not merely control them. Of 30-plus initiatives under way, almost all have been triggered by RBW's employees. Their grassroots committee meets monthly to trade ideas, which are passed up to the plant's green committee and then to the corporate committee of RBW's parent, Transcontinental Printing Inc.

Outside the plant, suppliers have responded with enthusiasm to its new standards. For example, at the company's request, its suppliers of inks and chemicals are now shipping in refillable totes instead of leave-behind drums, eliminating RBW's problem of waste disposal and potential spills.

As the second largest employer with a staff of 550, RBW Graphics has long been central to Owen Sound. Now it sits on the local Round Table as an advocate of sustainable development, keeping its community both prosperous and free of environmental liabilities.



RESTRUCTURING FOR SUSTAINABILITY

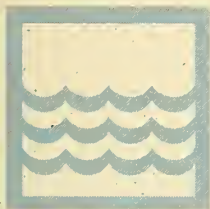
STRATEGIC DIRECTIONS

In the course of our work as members of the Round Table, we became aware of four essential strategic directions that must be taken to achieve sustainable development:

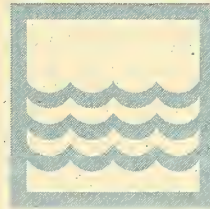
- The first is that we must "green" Ontario's economy, by making it more compatible with our environment. This is the purpose of restructuring for sustainability.

The other three strategic directions describe how this can be done:

- by providing better information so that better decisions are possible;
- by involving the broadest range of people and organizations in making these decisions; and
- by ensuring that those who make decisions and take action related to sustainable development are accountable for these decisions and actions.



Without these four strategic directions, little is possible. Together, they are the building blocks of the strategy for sustainable development that we recommend, the framework within which it will be realistically deliverable to the people of Ontario.



In each of the next four chapters, a strategic direction is discussed in detail: the issues it involves, the views of the sectoral task forces, and the related Round Table's conclusions and recommendations.

FIRST BRANDS (CANADA)

CORPORATION is facing a tough sustainable-development challenge: how to reconcile its garbage-bag business with waste reduction. Its responses include both its own products and its work with other interests.

Since 1989, the company has invested close to \$ 3 million in setting up integrated bag-based recycling systems in several provinces, acting as a partner to municipalities and recyclers. It has developed in-office "recycling centres" for businesses and institutions. It has helped recyclers speed the sorting process by inventing a de-bagging machine (for others to make) that splits open the bags, sends materials down a conveyor belt for separation, and collects the bags for recycling.

Among its own products is a household system of see-through bags that separates garbage and diverts it from dumps: a blue bag for recyclable materials (comparable to the Blue Box), a clear bag for lawn and garden waste, and a green bag for food waste.

The company is recycling plastic from used bags into ice-scraper handles and is researching other moulded and film products, reflecting both product stewardship and business acuity. As waste is reduced in society, it can diversify into other areas.

First Brands does not expect its initiatives to be profitable for several years. But it expects its experiments with sustainable-development tools — anticipating problems, providing missing links, adapting ideas to community needs, and forming effective partnerships — to pay off down the road for everyone.

STRATEGIC DIRECTION 1: GREENING ONTARIO'S ECONOMY

In identifying a green economy as our goal, members of the Round Table operated from the already stated assumption that the environment, economy, and society are inseparable. We view current global and local environmental and economic changes as creating challenges — and opportunities — in Ontario (as in all parts of the world). The key to success depends on whether we are willing to make the necessary shifts in our corporate, community, and government processes needed to meet the challenges and exploit the opportunities.

This is the restructuring for sustainability that is required to green the economy. It is important to emphasize that such restructuring is not a matter related only to our economy. It will mean changing all aspects of our society and it will depend, in the long term, on our individual willingness and ability to make new kinds of decisions and to act in new ways.

WHERE WE ARE NOW

We face severe environmental problems because we have not adequately taken into account the economic cost of pollution, depletion of natural resources, and the destruction of our ecology. The marketplace ignores the value of the environment, in part because most environmental resources — the air we breathe, for example — are common property and the things that belong to all are often deemed to be the responsibility of none.

Because the value of the environment has been difficult to measure, people in business and economists have resisted moves to include it as a cost. Moreover, at a time when society in general was indifferent to the environmental consequences of economic development, there was little incentive to include a seemingly irrelevant factor in economic decision-making.

With increasing awareness of the relationship between the economy and the environment, there is a need to ensure that environmental costs are fully included as a factor in doing business. Moreover, accounting that fully factors in environmental costs is an incentive to the market to prevent pollution as well as to create clean-up and other environment-related industries.

Paradoxically, while there is increased awareness of environmental problems, some of them are less direct and less obvious than the belching smokestacks and polluted waterways that gave people their first environmental awareness more than 20 years ago. Global warming, for example, or the dangers of a thinning ozone layer have a less immediately visual impact than a scum-laden pond or a malformed herring gull.

Nonetheless, the impact of environmental problems on our social and economic health is only too real. For example, predictions of climatic change have important and bleak implications

throughout Ontario for forestry, hydro-electric power, fishery stocks, crop production, and recreation.

In Ontario today, resource industries are a significant economic factor and forestry and mining in particular are major export industries and the source of substantial foreign exchange. Tourism, which is increasingly important in Ontario, is vitally dependent on clean air, clean water, and healthy plants and animals.

In fact, every product and service we offer has environmental implications, consider just a few of the most obvious:

SERVICES

- Natural resources are required by Ontario's vital financial service and information industries: paper, hydro, other forms of energy, waste disposal.
- In tourism: energy, water — for everything from swimming to washing dishes.
- Even so-called "clean" service industries — finance, engineering, communications, education — involve the environment. For example, chlorofluorocarbons (CFCs) are still being used by some manufacturers of computer hardware. Furthermore, the potential for electronics to promote conservation is nowhere near being realized as increasing numbers of

computers and facsimile machines turn out looming mountains of paper.

PRODUCTS

- The creation of all products involves the use of some raw material: minerals, trees, oil, for example. Furthermore, some form of energy is involved in the manufacture of all products.
- Processing materials often involves other materials, including water and chemicals.
- Gathering and processing materials almost invariably involves environmental damage: clear cuts, mine tailings, oil spills, air and water pollution, bulk and toxic wastes, flooding, nuclear waste.
- Transporting the finished product involves the expenditure of more energy, materials, and land and produces more pollution.
- The use of products by consumers carries environmental costs: building materials, cars, clothes, food. The most casual decision — to drink coffee in “disposable” containers — can have serious environmental consequences: the chlorofluorocarbons used to produce polystyrene foam cups in the past will affect ozone levels well into the next century.



- In producing large-scale infrastructure goods such as systems for water and sewage, power, transportation and communications, the public sector requires vast quantities of materials, products, and energy.
- Links between the environment and human health are also becoming increasingly evident and have economic implications for Ontario's already hard-pressed health-care system.

Environmental concerns have become the centre of research and development, design, and engineering efforts in a broad range of industries; for example:

- The energy sector is researching solar, wind, and other renewable sources of power; redesigning the use of older sources such as oil, coal, and nuclear; and improving the efficiency of energy use in engines, appliances, and material processing.
- Engineers are seeking cleaner and more efficient methods of pulping, bleaching, and paper-making and foresters are looking for more sustainable ways to plant, tend, and harvest trees.



MOVING TO SUSTAINABILITY

Like most complex industrialized regions, Ontario has created a range of economic, social, and environmental policies and programs over the years. Each was established in response to a perceived need or to reach a perceived goal, but without being integrated into any overall strategy and with no sense of their total effect.

That must now change. We need to educate ourselves to accept, and even feel challenged, by the economic, environmental, and social shifts already in motion — shifts that will only accelerate if we are to develop a sustainable society.

The Round Table believes economic and environmental health are not only compatible, they are inseparable. Both require:

- efficient use of all resources;
- innovative products, processes, and practices;
- investment in research and development, state-of-the-art equipment, and worker training;
- clean process and product technology;
- awareness of global trends and activities;

- design, materials, production, and marketing systems that encourage managerial responsibility;
- high-quality, responsibly made products: i.e., those that are durable and efficient;
- consumer information that is genuinely informative and that assists in responsible use of products; and
- strong and positive relationships among employees, managers, owners, governments, communities, and consumers.

The decision to green Ontario's economy has different consequences at different levels, but all can be reasonably accommodated. First, in considering the effects of the environment on their operations and on their decisions, companies must assess the quality of the information they are using (a need that is discussed in detail in the next chapter).

Second, companies must protect themselves and their shareholders by ensuring that environmental costs are carried on the books in as complete and responsive a way as any other costs. They must also be certain that their own policies, procedures, and practices conform to existing regulations and rules. While this itself may mean a commitment of some of the organizations' resources, the alternative

may involve anything from public criticism to corporate extinction.

Third, the links between our environment and the economy, must be more broadly acknowledged. The forest products sector, for example, grosses \$14 billion a year in Canada, and is a major generator of jobs in Ontario. But forests must be managed wisely if the sector is to have a sustainable future.

All sectors of our society need to understand the complex, subtle, and pervasive interconnectedness of environment, economy, and society. The organizations, businesses, and individuals most able to integrate information, people, technology, materials, physical plants, institutions, and processes will be the most successful. But achieving such success means:

- involving more groups in broader forms of decision-making;
- instituting systems of full-cost accounting;
- educating people, in both formal and informal settings (from university classrooms to television programs) on environmental issues;
- redesigning production, workplace, corporate, community, and government systems.

EFFICIENCY AND INNOVATION

Technologies that minimize the use of materials give firms competitive advantages over others. In general, the economic emphasis is moving from energy- and material-intensive processes to information- and knowledge-based industries that emphasize intelligent design and microelectronics.

At the same time, market forces are influenced by government standards and laws, which reflect concerns and set the framework in which business operates.

People expect governments to be model citizens in such matters as tendering and hiring procedures. Increasingly, they hold governments to a similarly high environmental standard in their use of energy, purchasing policies, and the like.

In consultations with the various sectors, the Round Table found that individuals, companies, communities, regions, and governments accept the point that the efficiency and innovativeness of our economy will improve as we invest in up-to-date technology and infrastructure: telecommunications networks, data bases, public transit, and recycling systems.

These will provide the methods, the products, and the jobs of the future just as, in earlier times, jobs and products were the result of the decision to build highways, schools, and a health-care system. While some rebuilding of old infrastructure is

necessary — sewer and water plants, for example — we need to evaluate candidates carefully, recognizing that a more efficient facility is a better investment, in terms of jobs now and of sustainability in the future.

FORCES IN MOVING TO SUSTAINABILITY

The three methods used by governments to encourage change — controls (laws and regulations), economic incentives (taxes and fees), and public information and education — have their place and are useful in different combinations.

REGULATIONS

There are on the books a vast range of statutes, regulations, rules, guidelines, and penalties related to the environment. These cover everything from recycling rules to information on the use of hazardous materials, to regulation of the design, manufacture, distribution, use, and disposal of goods. Often, such standards are designed for public protection but may also result in modernization and development of new technologies. (The California auto standards are a prime example.) They can be used to motivate local concerns to produce energy-efficient or pollution-free products and processes, using recycled content. Increasingly, governments are learning how to use such standards to move economies toward innovation and competition for

export markets; if it is to remain a modern industrial society, Ontario must keep pace. Germany, for example, requires companies to take responsibility for collecting and recycling all packaging for their products, and the rest of Europe and other industrialized countries are likely to follow.

Provincially and nationally, governments and communities must begin to set environmental standards and translate them into clear, concise rules that are widely understood.

THE MARKETPLACE

The costs of materials, energy, and other items — usually on the increase — are fuelling innovative responses by manufacturers. They are changing products and techniques or developing new ones to stay competitive. Some feel pressure to change in one area; others do not. Some respond effectively. Others do not.

The need for investment aimed at capturing the innovative edge now takes on new importance. Any restructuring must include measures designed to help financial markets recognize and reward those enterprises and products that have potential in the sustainable society.

If Ontario is to remain the economic and industrial heartland of Canada, businesses will have to respond to changes in the marketplace and its sometimes subtle shifts in attitude and expectation. They

must offer products that are acceptable to existing markets, and create products that find favour in new markets as they emerge.

Sustainable development also offers many sectors an opportunity to more fully capture the real costs of using resources, lands, and the environment. The best way to prevent inefficiency and damage, and to correct signals to the marketplace, is to assess costs directly, perhaps through a greater use by government of economic instruments such as:

- charges, fees, and taxes;
- subsidies;
- refundable deposits;
- tradable permits.

All the above-named instruments are used in Ontario, except tradable permits.

A sustainable restructuring strategy would also lead the Government of Ontario to review its many tax breaks, subsidies, and other incentives. Although they may have been created for good reasons — job creation, regional development, resource management — they may be “ecologically blind” or even be causing environmental damage.

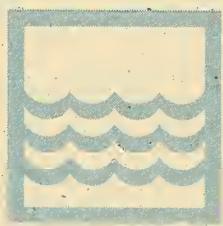


EDUCATION

As international competitiveness expert Michael Porter points out, most competitive industries face sophisticated and demanding consumers in their home markets. However, if people are unsure that they can drink the water, eat the food or use a product in safety, they will change buying habits with incredible speed. The results can be costly — as, for example, in the 1980's, when Ontario apple farmers were severely affected by concerns over the pesticide Alar.

The reverse is also true: when environmental information about products is positive, people are prepared to change buying habits. The president of a major supermarket chain reported that it sold \$5 million worth of products designed to reduce environmental impacts within a month of introducing the line.

A more specialized facet of educating for sustainability can be carried out as part of corporate reporting. Increasingly, such reports need to include serious efforts, made either voluntarily or according to regulations, to give investors consistent guidance on the liability and sustainability of a company's operations. This certainly carries the message of environmental/economic interdependence.



ADJUSTING TO SUSTAINABLE DEVELOPMENT

Acting in terms of sustainable development will be beneficial, but it will also involve losses, which will have to be borne by some individuals, communities, and business sectors. Painful adjustments are inescapable even now. Furthermore, they are complicated by anxiety about jobs and markets that have already been lost as the result of globalization, reduced non-tariff barriers, and other structural changes in the economy.

The effects of these changed conditions are especially noticeable in Ontario's traditional resource-based industries — forestry, farming, and mining — as well as in its manufacturing sector. Workers, companies, and whole communities are feeling the strong effects of dwindling resource bases, pollution generation, and/or global competition.

Michael Porter also pointed out that tough environmental standards and strong, innovative, export-based industries often go hand in hand:

Stringent standards for product performance, product safety, and environmental impact can help to create and upgrade competitive advantage. They pressure firms to improve quality, develop improved processes, and respond early to consumer and social requirements
(Michael Porter, Canada at the Crossroads: The Reality of a New Competitive Environment, October 1991).

Clearly, it is no coincidence that the regions of the world with the highest environmental standards have some of the most competitive economies. But becoming "greener" is hardly a simple process, or a painless one. Adjustment and training programs will be needed for those affected by change.

Moving Ontario society to a green economy means that, as the rules change, the environmental, economic, and social effects must be understood and managed responsibly. Furthermore, it is essential that the costs and benefits of such changes are shared equitably.

Sustainability does not mean abandoning Ontario's traditional resource-based industries, which can be reshaped to fit into a sustainable society. Moreover, they are a major source of raw materials for both our own use and export earnings.

In creating a new industrial strategy to update traditional industries and develop new ones, Ontario must recognize that environmental concerns can be a primary force driving economic innovation. The Government of Ontario acknowledged this in its 1991 budget:

Technological innovation is also driven by challenges such as the need for improved environmental protection. Worldwide, there is growing recognition that sustainable

prosperity — and our very survival — depend on a healthy environment. An economic advantage will accrue to those who quickly recognize the universality of environmental concerns and who adapt to the new reality.

Supplying needed environmental technology will create a healthy environmental industry sector. According to recent estimates, there are already more than 3,000 companies in Canada, generating more than \$7 billion annually, that offer environmental products and services. The Ontario environmental protection industry had estimated revenues of \$2.5 billion in 1990 in 1500-2000 firms across the province. In the United States, environmental industries account for more than \$100 billion a year and are said to constitute that country's third largest industrial sector.

In Europe, an estimated two million jobs are associated with environmental industries, and the changing face of Eastern Europe will probably raise that number very rapidly. Furthermore, the industrialization of the Third World will create an enormous demand for environment-related products and services. Clearly, there are exciting long-term economic possibilities: job creation, industrial productivity, and export of environmental products and services.



SECTORAL VIEWS

The Round Table task forces reported in the fall of 1991 in six major economic sectors: agriculture and food, energy and minerals (which produced two separate reports), forestry, manufacturing, transportation, and urban development and commerce. A parallel Native People's Circle was set up and reported at the same time on Aboriginal issues.

Based on their research and consultations, these groups made many recommendations to the Round Table on greening the economy.

In particular, they recommended that the people of Ontario reduce the amount of energy we consume; release fewer pollutants into the air, land, and water; plan our cities more efficiently; and protect both agricultural land and wilderness. They also proposed we pay the full costs, including the environmental costs, of everything we produce and everything we use.

They recommended research into cleaner manufacturing processes and more sustainable products. Finally, they felt we should create new opportunities for individuals and communities to live more sustainably.

The following are some of their specific recommendations for greening the economy.

HIGH PERFORMANCE STANDARDS

Four sectoral task forces suggested we make reduction of pollution — especially air pollution from burning fossil fuels — a goal.

Manufacturing supported tough environmental standards for emissions to air, land, and water.

Forestry recommended that the pulp and paper industry work to achieve virtual elimination of persistent, bioaccumulative, and toxic materials from mill effluent. Forestry also suggested that it work with government to promote research, technology transfer, and development to improve energy efficiency.

Urban Development and Commerce recommended that the building code be revised to encourage the efficient use of water and energy.

Energy suggested that the provincial government set tougher energy efficiency targets and increase environmental standards for pollutants as the result of energy use.

Three sectoral task forces recommended an increased emphasis on protecting rural land.

Urban Development and Commerce urged the provincial government to protect both prime agricultural and environmentally sensitive lands that border urban areas.

Transportation recommended changing the Planning Act to make it mandatory for municipalities to create long-term land-use and transportation plans. These would incorporate higher urban densities, protect agricultural land, and promote walking and the use of transit.

Agriculture and Food suggested the Government of Ontario enhance and protect rural lands for food production, open space, biological or wildlife habitat, and heritage preservation.

It also recommended that the government develop comprehensive legislation for rural land planning and use and that it establish a Countryside Commission to oversee such activities. It would monitor and evaluate the state of the countryside; develop a new classification system to identify key natural resource areas; and develop planning guidelines to help local governments identify and maintain priority natural resource areas and local economic and environmental health. Such a Commission would report regularly to the Legislature and provide advice to ministers and others on the impact of new policies and activities and on ways to mitigate adverse effects on the resource base.

Such a commission would have the authority to report to Cabinet on policies affecting resource health and to present the case for countryside preservation before all boards and agencies.

The Task Force believes that such mechanisms as land trusts and easements are needed to preserve lands under stress. They would enable private individuals and trusts to purchase conservation easements; buy land to lease back for the long term or to sell on condition that no development occur; accept donations with tax incentives; and accept and manage surplus public lands.

Easements can be employed to place restrictions on the use and development of land to conserve its natural features. They can be applied to wilderness areas or to prime croplands under stress from urbanization. They can be financed through

private trusts, agrobonds, provincial debentures, or the sale — with conditions — of land by land trusts.

FULL-COST PRICING AND MARKET INCENTIVES

The *Urban Development and Commerce* task force recommended that water be metered in all urban locations and that conservation pricing of water and sewage be instituted.

Two task forces noted that financial incentives can move Ontario towards sustainability.

The CARLETON BOARD OF EDUCATION, in partnership with the Ontario Ministry of Energy and the Rawson Academy of Aquatic Science, has implemented a sustainable development program — Ontario Destination Conservation — in 12 of its schools.

Energy audit teams target areas for savings and collaborate with schools to establish action plans. All members of the partnerships promote and monitor the implementation and progress of the program.

The first year focuses on no-cost changes. Subsequent savings flow back to a central retrofit fund, the school and the

environmental non-government organization. In the second and third years, these savings are reinvested to promote further energy savings.

Support documents reinforce sustainable development in the school community. Students help shape changes. They quantify both economic and environmental savings and take responsibility for decisions that affect their surroundings.

This combination of technical and curricular approaches in Ontario Destination Conservation builds a community of concerned, aware and involved people.

Transportation recommended that the provincial government base its vehicle licence fees on fuel efficiency and emission levels. Most of the task force members also supported a provincial DRIVE+ program, which has annual goals for vehicle emission levels and larger rebates to consumers who buy vehicles with lower-than-average emission levels. The task force also recommended that, with other key stakeholders, the Government of Ontario create an "Economic Instruments" action plan to promote the development and use of reformulated and alternative transportation fuels.

Manufacturing suggested that the provincial government, in consultation with industry and environmentalists, start using economic or market-based instruments as an incentive for industry to reduce discharges to air and water and to reduce the generation of waste.

Four task forces recommended that the government review its tax policies and other financial and economic programs to ensure they are compatible with sustainability.

Transportation suggested the Government of Ontario develop and implement a system of full-cost accounting, in order to measure the benefits and costs of transportation initiatives.

Energy recommended that the provincial government work with key stakeholders in the energy sector and with the Canadian Institute of Chartered Accountants to find out how the energy sector can move to fuller-cost accounting. Such a plan might examine tools such as emissions taxes and ways of using taxes to preserve social equity in access to energy services.

Manufacturing suggested that Ontario's Fair Tax Commission should examine how the tax system can be used to encourage environmentally responsible activities such as efficient resource use, value-added manufacturing, "4-R" activities (reduce, reuse, recycle, and recover), development and use of clean product and process technology, and sustainable levels of consumer demand. The commission should also decide whether further tax adjustments are necessary to encourage production that uses energy and resources efficiently.

Agriculture and Food suggested that the existing system of subsidies, insurance, and supports be revised to encourage sustainable agricultural practices.

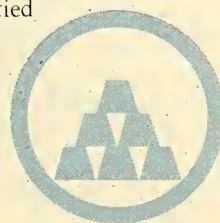
Forestry recommended that the pulp and paper industry support research into the elimination or treatment of chlorinated organic chemicals.

Transportation suggested that the provincial government — in partnership with motor vehicle manufacturers, engine manufacturers, the petroleum industry, and alternative fuels suppliers — create an International Transportation Institute. It would carry out research and development of reformulated and alternative fuel technologies, as well as alternative vehicle technologies.

Manufacturing advised the Government of Ontario to increase funding to the Manufacturing Centres of Excellence and instruct them to increase their focus on environmentally responsible product- and process-design technology. The centres should develop programs that meet small business needs for environmental protection, recycling technology, and the technology transfer. The task force believes that the private sector should increase its research into and development of "clean" process and product technology.

RESEARCH

The sectoral task forces identified several research areas crucial to sustainability.



TRANSITIONS

Two task forces recognized that the transition to sustainability may have an impact on workers and communities.

Transportation suggested that the provincial government determine the benefits and costs of initiatives promoting sustainability for different geographic regions of Ontario and for specific groups of people.

Forestry recommended that any job losses resulting from tougher enforcement of environmental standards be offset by a fund established for businesses willing to invest and provide jobs in Ontario, increase research and development, and establish joint ventures. Workers should be invited to participate in decision-making regarding changes to environmental standards.

INFRASTRUCTURE

The task forces recommended that the Government of Ontario invest in its natural and its built infrastructure.

Transportation, which recognized that moving information is a sustainable alternative to moving people, recommended that the province and municipal governments initiate, monitor, evaluate, and report on pilot telecommuting programs for public-sector employees. It also suggested that private-sector employers be encouraged to participate in similar efforts.

Forestry recommended that the selection process for representative wild areas be completed and protection mechanisms for these areas be established. The group also advised that the establishment of explicit quantitative objectives for biodiversity and wildlife habitat are high priorities in forest management.

INVESTMENT

Three task forces recognized the importance of encouraging investment in more sustainable products and processes.

Manufacturing recommended that the Government of Ontario use the Ontario Securities Act to require all public companies to report annually on their compliance with environmental statutes, regulations, standards, and guidelines for emissions to air, land, and water and on their generation and management of hazardous waste.

Minerals suggested that the Government of Ontario, in co-operation with the federal government, increase financial incentives for the development and use of improved technology. One such incentive would make it easier for businesses to write off capital expenditures that "green" products and manufacturing processes and make them more competitive.

Energy recognized that the federal government must make it easier for business to apply accelerated capital-cost allowances to investment in energy-efficient, low-carbon, and renewable-energy technologies. The group also advised the Government of Ontario to increase financial incentives for industry to develop and apply new technology — in particular, low-carbon and renewable-energy technology.

It said further that the provincial Ministry of Industry, Trade and Technology should increase its focus on developing businesses and industries involved in environmentally sound, clean technologies and processes, such as co-generation and pollution-control equipment.

ABORIGINAL ENTERPRISE

The *Forestry and Transportation* task forces, as well as the Native People's Circle, recognized that Aboriginal people have an increasingly important role to play in moving Ontario towards sustainability.

Transportation recommended that the Government of Ontario assess the possibility of entering into transportation-sector partnerships with individual First Nations.

Forestry suggested that joint industry/Aboriginal ventures should be promoted. Industry, with the support of unions, should encourage Aboriginal participation through

such mechanisms as on-the-job training and seasonal shiftwork that accommodates traditional activities. The group also suggested that one-year science-access transition programs be established at the university level to help prepare Aboriginal students for careers in forestry and other sciences.

The *Native People's Circle* recommended that the provincial and federal governments recognize trapping as a legitimate profession and set up an accreditation program. It also recommended favourable financing and enhanced opportunities that would enable Aboriginal communities to bid for silvicultural, road construction, and maintenance contracts in traditional and surrounding territories.

Summary: The need to shift to a green economy can no longer be ignored. The key to restructuring lies in fundamental changes in government, and corporate and community attitudes towards sustainability. Economic and environmental health are not

only mutually compatible, but mutually reinforcing. There is strong evidence that environmentally innovative and efficient products and production techniques, supported by appropriately designed economic instruments, will produce competitive advantages for industry. The short-term costs of restructuring will be balanced by long-term gains.

The Round Table's task forces made several recommendations for greening the economy including: promoting research into green manufacturing processes and products; reducing energy consumption; and creating new opportunities for sustainable living.

RECOMMENDATIONS FOR GREENING ONTARIO'S ECONOMY

The Round Table believes the following actions are needed to ensure that sustainability is built into all the economic decisions in Ontario, from daily purchases to long-term planning.

The course is being packaged in workshop form for government and industry.

The University is also developing a new course to examine the five key issues determining the fate of generations to come: population growth, resource use, energy consumption, pollution, and ethics.

1.1 High Performance Standards

A. The Round Table recommends that the Government of Ontario set as its target reducing the economy's energy intensity — the amount of energy used for each constant dollar of real gross domestic product — by three per cent per year for the next 10 years. Government, business, labour, communities, and other stakeholders should work together to create ways of ensuring that a target of a three percent decline in energy used per unit of output is met in each sector. This will be a key component of overall sustainability strategies for sectors and government ministries. Similar efficiency targets should be established for other resources.

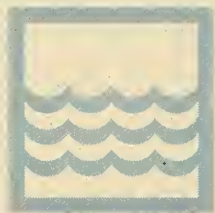
B. The Round Table recommends that the Government of Ontario end the release of persistent bio-accumulative toxic substances by the year 2000; by the end of 1994, each sector should have developed plans to meet this goal.

UNIVERSITY OF GUELPH's Arboretum/Institute of Environmental Policy and Stewardship since 1987 has been teaching sustainability in a one-semester course called "The 5,000 Days" (to the end of the century). The course recommends that forestry planning should cover the next 100 years, not 10 or 20.



C. The Round Table recommends that the Government of Ontario act to protect Ontario's land base by preparing a provincial policy framework for sustainable development. In particular, it should protect agricultural and environmentally sensitive lands such as biological or wildlife habitats and heritage lands. This could be done by:

- setting provincial policies, standards and guidelines for municipalities;
- undertaking planning on an ecosystem basis;
- encouraging more intensive development within urban areas; and requiring municipalities to incorporate this into long-term land-use and transportation plans;
- introducing new mechanisms to preserve those lands most under stress;
- undertaking mapping programs to identify sensitive and protected areas; and
- ensure that financial programs do not encourage urban sprawl.



1.2 Full-Cost Pricing and Market Incentives

A. The Round Table recommends that, working with stakeholders, the Government of Ontario review its tax policies and other financial and economic programs, to ensure that all incentives and disincentives support sustainability, in particular full-cost pricing of use of resources.

B. The Round Table recommends that municipalities move to pricing water at full cost, in order to improve efficient use and reduce demand for infrastructure and service. Two interim steps should be taken by municipalities as they move to close the gap between the cost of water and the price charged for it: pilot projects should be conducted on metered full-cost pricing of water; and non-payable statements should be sent to consumers to make them more cost-aware. Based on the success of the pilot projects, full-cost pricing should be introduced for water use in housing, commerce, industry, and power generation. Such pricing should take into consideration issues of social equity, industrial competitiveness, and other factors.

C. The Round Table recommends that the Government of Ontario evaluate a system of financial incentives to encourage sustainability. This should include: fees, subsidies, deposits/refunds, performance bonds, and tradable emission permits. This should be done jointly with all stakeholders and be as financially neutral as possible — with little or no additional overall costs to government, business, communities, or households.

1.3 Research

The Round Table recommends that the Government of Ontario should encourage and support partnerships among government, industry, employees, universities, communities, and other stakeholders. Partners should redirect existing funds from unsustainable activities to the areas of:

- technological innovations for sustainability;
- pre-competitive research of sustainable products and processes;
- research pilot projects and case studies; and
- evaluation of professional and technical skills needed for a green economy.

1.4 Adjusting to Sustainability

The Round Table recommends that government, business, labour, and communities plan jointly to upgrade traditional industries in order to make them sustainable and develop new industries that have a minimally negative or even a positive effect on the environment. Such planning should focus especially on skills upgrading and training of current workers. The Government of Ontario should set this as a goal in moving to sustainability, in order to improve the well-being and minimize the losses experienced by stakeholders.

1.5 Infrastructure

A. Built Infrastructure

The Round Table recommends that full-cost pricing (discussed in recommendation 1.2.A and 1.2.B) and financial incentives (1.2.C) be employed to make the best use of existing water, sewer, power, transportation, building, and other current infrastructure and as the basis for assessing the need for new or additional infrastructure.

The Round Table recommends that the Government of Ontario require creation of urban forms that will result in reduced urban sprawl and more efficient public

transit. This should also stimulate new development and export opportunities for new transportation technologies and techniques.

In conjunction with telecommunications suppliers and users, the Government of Ontario should make joint plans for investing in the electronic infrastructure of the future. This could include pilot projects on telecommuting (using computers to work at or closer to home) and expansion of public- and private-sector services to rural and remote communities.

B. Natural Features

Natural features are as important as built infrastructure to Ontario's ecology and economy. The Round Table recommends that restoration and preservation of natural features include:

- initiatives by government and business to restore and preserve resources that are the bases of the forestry, mining, tourism, and other industries;
- completion by the Government of Ontario of the selection process for representative wild areas, and, by the year 2000, the development

of mechanisms for protecting these areas; and

- establishment by the Government of Ontario, by 1994, of explicit quantitative objectives for biodiversity and wildlife habitat.

1.6 Investment

- A. The Round Table recommends that all public corporations be required to report annually on their compliance with environmental laws, regulations, standards, and guidelines for emissions to air, water and land and their generation and management of hazardous wastes. Documents for potential investors should provide all relevant information on compliance with environmental laws and regulations and on potential environmental liabilities. These documents also should describe sustainability objectives and the actions to be taken to achieve them.
- B. The Round Table recommends that the Government of Ontario encourage the flow of investment into sustainability ventures by allowing accelerated capital depreciation in its tax system. Qualifying criteria should be based on the six principles set out in this strategy.

C. The Round Table recommends that the Government of Ontario redirect money from less sustainable programs in order to offer more support for “green” technologies.

1.7 Aboriginal Enterprise

A. The Round Table recommends that the Government of Ontario and other stakeholders respect and support efforts by Aboriginal communities to preserve their culture and develop their economies by:

- supporting the development of community sustainability plans for their local economies;
- developing programs for culturally appropriate training and employment and to preserve land-based ways of life; and
- creating joint ventures and co-management agreements in resource sectors.

B. The Round Table recommends that “EcoEnterprise” courses be jointly created and offered by Aboriginal communities, business, universities, and colleges to develop Aboriginal expertise in economics, small business, and ecology. These courses should be based on Aboriginal knowledge of natural systems and aimed at supporting economic success in sustainable resource-based enterprises in Aboriginal communities.

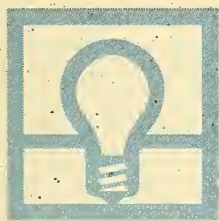


STRATEGIC DIRECTION 2: IMPROVING DECISION- MAKING

SHARING INFORMATION

No matter what we believe in, or what we say we believe in, our day-to-day behaviour, and the decisions that underlie it, are the litmus test of our intentions. They ultimately determine whether we reach the goals we set. The countless decisions made by individuals, acting alone or in concert with each other, shape the economy of our country. Our impact on the environment is determined by the energy, materials, and waste that result from the way we maintain our homes, travel to work, prepare meals, and enjoy our leisure time; the way business is carried on and the longer-term investment plans of the business community.

To make sound decisions, however, we need accurate up-to-date information, that realistically describes problems and establishes the range of possible options. Translated to environmental issues, we need to ensure that we have better information individually, in business, and at all levels of government; only then can we make fully informed economic, environmental, and political decisions.



The amount and quality of information used in making environmental/economic decisions in Ontario is increasing. But vast amounts of data often remain in discrete, segregated boxes labelled environmental, economic, and social. For example, there is no systematic way of tracing the myriad of health problems to environmental changes caused by industrial activities. Governments, communities, and individuals just try to deduce causes and cope with costs as well as they can after the harm has occurred. (The most tragic example of this phenomenon was the occurrence of mercury poisoning among Aboriginal populations on the English-Wabigoon River system who had consumed fish later identified as being laden with mercury.)

Information from the public and private sectors may not be integrated because of concerns about competition or liability; the same is true between companies and unions and between different cultures and interests. This makes it difficult to find patterns among different sectors and regions, much less across the province or the nation. Isolated analyses are not much use in a world where everything is connected to everything else. Without common understandings of the problems and possibilities, it is much harder to reach agreements on what action is needed.

A great deal of information, useful or not, is simply unavailable now. It is tucked away in obscure or confidential data banks, analysed only by those with access to it. Most of what is reported is isolated and specialized, of little value to understanding and making decisions or taking action. The result is a paradox: while many people, even professionals and executives, feel they are drowning in a sea of data, necessary information is likely to be unavailable.

The evolution of technology will certainly make information more readily accessible. The real task may be to persuade people and organizations to share what they know, even on issues of crucial importance to all sectors of society.

BETTER INFORMATION/BETTER DECISIONS

The quality of the information on which a decision is based will determine the quality of the decision itself.

If we are to restructure our social, economic, environmental, and cultural systems to meet the goal of sustainable development, we need information that is accurate, that is understandable, and that is easily accessible.

OBTAINING BETTER INFORMATION FOR SUSTAINABILITY

Science contributes to sound decision-making on environmental matters: it can help governments develop and enforce effective regulations; assist businesses in measuring how well they are complying with regulations; provide the impetus for business to develop processes and products that help meet regulatory requirements. Moreover, science helps individuals understand the environmental implications of the everyday choices they make.

Technological research and development offer solutions to environmental problems, as well as the means for measuring progress. They can help our industries remain competitive in international markets without compromising the environment. Better environmental technology both identifies problems and is the key to industries that are being developed in response to those problems.

ECONOMIC REPORTING

One essential component of sustainable development reporting is the use of economic indicators. Economic indicators are now routinely employed to assess the state of the economy: the Gross Domestic Product (GDP), the Gross Provincial Product, unemployment and trade statistics, and other measures influence major decisions made by individuals, corporations, institutions, and governments. By contrast, there are few systematically reported indicators to assist us in evaluating the environment.

But traditional economic indicators do not take into account the importance of the environment and were not designed to reflect the environment/economy link. Decision-making that is based on economic indicators but isolated from environmental factors will not achieve the goal of sustainable development.

ENVIRONMENTAL REPORTING

Accurate reporting makes environmental data available to a broad audience that is well enough educated to comprehend it and to make the day-to-day decisions needed to improve the environment, to evaluate the decisions of others — and to take responsibility for the economic, environmental, and health consequences of those decisions.

Environmental reporting is the systematic description, analysis, and presentation of credible information on conditions and trends in the environment. It looks at the interactions between human activity and the environment and the way in which those interactions affect us. Environmental reporting is designed to identify important changes occurring in our environment as the result of human activities and relays this information to decision-makers. Just as the Consumer Price Index (CPI) and the unemployment rate are indicators of our economic health, such indicators as Ontario's Air Quality Index help gauge the health of the natural environment.



ALLEN ASSOCIATES is a small engineering firm specializing in energy-efficient and eco-sensitive buildings. Its design in cooperation with D. Pollard, architect for the Boyne River Natural Sciences School 100 km north of Toronto includes:

- A low profile with a sod-covered roof, vines, trellises, and shrubbery that blend into the landscape and encourage the company of wildlife;
- Minimizing "cradle to grave" impacts of building materials, for example, by using local woods;
- An entirely renewable energy supply, drawing from a wind generator, a small 100-watt hydro dam at the edge of a pond, and a solar array built into a hillside;
- An airtight, day-lit, solar-heated interior with triple-glazed atriums and a walk-in-wood-burning hearth;
- Waste-water treatment by solar aquatics similar to wetlands, filtering through cascades of snails, algae, and aerobic bacteria and visible through clear acrylic tubes, so students can live sustainability as well as learn about it.

SUSTAINABILITY REPORTING

Environmental reporting enables decision-makers to use consistent environmental information in making choices. For example, it can be used to measure progress and assess the effectiveness of resource management programs in improving environmental quality and the use of natural resources. High-quality environmental reporting also provides early warning of emerging problems — absolutely essential in developing successful anticipate-and-prevent policies.

But environmental reporting, on its own, has its limits. The traditional method of environmental reporting, used for more than two decades, has been reactive and very specific: the kinds of pollution found, in what amounts, in what areas (air, water, and land). This has been an important but limited tool.

Since the 1980s, however, a more useful method, state-of-the-environment reporting, has been used. It takes a broader look at larger areas, and is the basis of a growing number of national and global reports. Not designed to be the basis of an integrated overview of our environmental, economic, and social well-being, it describes only what is happening, not why or what to do about it.

The first national state-of-the-environment report was issued in 1986 and was followed by several regional reports; earlier this year, the second national report was released.

Having long ago accepted economic reporting and having moved beyond environmental reporting to state-of-the-environment reports, it is now time to lay the foundation for sustainability reporting, which is an overall measure of progress on all fronts. It includes pollution and state of the environment, but integrates rates of resource use, remaining resource stocks, efficiency, recycling, and other measures. It is linked to traditional economic measures: i.e., the amount of energy used per unit of production. It counts natural as well as financial capital.

State-of-the-environment reporting must evolve in two ways to become true sustainability reporting:

- from narrow data on physical qualities (air, water, land, and specific materials) to broader measures that cover human activities as well as ecosystems; and
- from being limited to status or condition to being useful as a strategic tool for decision-makers, as economic indicators are.

The key questions that need to be decided in setting up information and sustainability reporting systems include:

- What should be measured?
- What methods should be used?

- Who should collect and analyse the data?
- Who should produce the reports?
- How should decision-makers be guided or bound by the results?

MEASURES

The main factors in measurements might include:

- the condition of human health;
- an assessment of human activity;
- an assessment of human-induced stress on the environment;
- the state of ecosystem well-being; and
- management indicators on the performance of specific ecological and economic systems.

As an interim step to full sustainability reporting, the Government of Ontario, communities, businesses, and other groups could examine what information is currently being collected. Are current data useful? How can they be used? What specific data need to be collected immediately?

Based on answers to those questions, a schedule could be drawn up for collecting further information.

SUSTAINABILITY INDICATORS

Work, nationally and internationally, is being carried out to codify information that can be used to connect environmental health with economic vitality. Those efforts are, in the main, still conceptual. The next step is to create specific, useful, widely understood sustainability indicators.

Many of the existing data are inadequate on several levels: they have been collected for only a few areas, or for only a short period; contain substantive gaps; or are the result of non-standard collecting techniques or measurements. In many cases, raw site-specific data are available but have either not been aggregated or are not analysed to present a broad enough picture to be useful.

Moreover, the reliability of some data is suspect: there may be deficiencies in auditing and verifying the data quality and consistency from year to year. Even when that is not the problem, as time passes, new techniques and changes in methodology make it virtually impossible to compare data over time.

After the 1989 Economic Summit, member countries of the G-7 asked the Organization for Economic Co-operation and Development (OECD) to develop sustainability indicators in the context of its work on integrating environment and economic decision making. An international effort is under way in the OECD to develop three types of indicators:

- state-of-the-environment (SOE) indicators to reflect the quality of the environment, the stresses on it, and the response to both quality and stress by decision-makers;
- indicators of the impact on the environment and the environmental efficiency of such key sectors as agriculture, energy, transportation and industry, and the degree to which environmental concerns are being integrated into the policies in these sectors; and
- indicators that integrate economic and environmental elements so that, for example, the value of natural resources and the costs of pollution are reflected in national accounts.

A number of groups and organizations, including the Round Table in Ontario and elsewhere, have been involved in moves to establish indicators. Among the problems to be faced are:

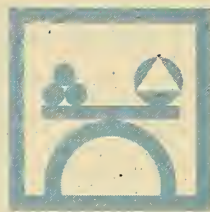
- selecting the few phenomena, among a range of possibilities, that best represent and relate to the objectives of the project;
- selecting trends deemed crucial; and

- determining the significance of levels and rates of change in a given area (for example, a change that may be judged to have caused environmental damage in one place may not be considered damaging in another).

A discussion paper produced for a Round Table-sponsored workshop on establishing an Environmental Information Policy for Ontario, suggests that, in the absence of a conceptual framework or model, data are merely a jumble of facts. Who among us, the paper asks, have not been baffled by the paradox of so much data resulting in so little information.

Information is created from data in the context of an analytical framework that allows the user to make informed judgements. A framework for reporting on sustainability must be constructed on the basis of a carefully selected set of indicators of sustainability.

Reporting on Sustainability: Human Well-Being within Ecosystem Well-Being, a paper submitted to the Round Table Policy Committee, proposes a framework for reporting on sustainability, which: provides a check on progress; ensures accountability; gives early warning signals for policy changes; and assists in communicating results to all Ontarians.



Such a system should include data and information about human well-being, the human-ecosystem interface (including human activity, its contribution to supplying basic needs and to the quality of life, and the stress it imposes on ecosystems) and ecosystem well-being.

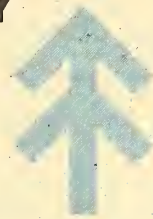
The United Nations, the World Bank, other major multilateral organizations, and national institutions such as Statistics Canada, have developed suggestions for adjusting indicators like GNP to separate resource flows and environmental conditions from other components of economic activity. These adjustments can be brought together in "environmental satellite accounts" to provide essential information for sustainable development policies. The United Nations and the World Bank have begun practical experimentation with a draft framework for environmental satellite accounts. Statistics Canada is co-operating with the Ministry of Natural Resources on a pilot set of accounts for forestry in Ontario.

While the so-called hard sciences can offer the tools for better understanding and use of the environment, social sciences and humanities are vital to any long-term changes to the activities and behaviour of individuals and groups. In other words, the usefulness of the most sophisticated technology is weakened unless people have the knowledge and information that motivates permanent changes to their behaviour. It can improve corporate as well

as individual decision-making and move industries to reject react-and-cure responses in favour of anticipate-and-prevent strategies.

INDICATORS OF SUSTAINABILITY

The following are examples of indicators of sustainability:



Natural Resources:

- resource stock and quality;
- loss of ecosystem functions, species, genetic diversity;
- percentage of land base/represented ecosystems protected;
- resource flows in the economy: recycled/virgin.

ISLAND PUBLIC/NATURAL SCIENCE SCHOOL on Toronto Islands has a strong environmental ethic: How to make today's students the environmentally literate adults of the future? Both its own day program and week-long one for visiting grade 5 and 6 classes show the

links among earth, water, and air and to human decisions and activities. Students discuss cause and effect in both nature and society. They are also part of a practical program of waste-free lunches, composting, and conservation measures such as lights off, taps off, and short showers.

LISTOWEL CANADA EMPLOYMENT CENTRE is a small rural office of a large federal bureaucracy. The staff of six have taken many personal steps towards sustainability: all lights, air conditioning, and heat are on timers. Efficient lightbulbs and moderating vertical blinds have been installed. The office has switched to refillable pens. No disposables are allowed in the staff room, and lunch leftovers go home to feed one person's pigs.

But paper remains the biggest problem, and it seems impossible to solve within the system. Much information is confidential, so papers should be shredded, then

recycled. But it is burned because there is no money in the budget for a shredder. Because of changes in legislation, the tiny office is swamped with pamphlets that date almost as fast as they come in. One staffer found they work as well as towels for wiping down the udders on his dairy cows. But most are sent to larger centres or revised by hand when possible.

The employees feel powerless to limit problems at source, as likely do many small government offices around the province. Sustainability often requires re-examining "simple" policies at every level and decentralizing decision making.

Human Resources:

- education and skill levels of workers;
- measure of skill utilization/innovation in techniques;
- weeks of training/skills upgrading per year;
- stability of communities;
- percentage of firms using apprenticeship programs.

Technology:

- stock of capital and technology;
- rate of capital formation and technology development;
- development/utilization of efficient, clean technology/R and D per-dollar-sales or as a percentage of GDP;
- percentage of operations using clean and efficient technology;
- measure of innovation in products and processes.

Emissions into the Environment; Environmental Capacity:

- the capacity of receiving media — air, water, land — to assimilate pollutants;
- air pollution: sulphur, carbon dioxide, toxics;
- water pollution: surface water, phenols, persistent and bio-accumulative toxics;
- waste generation/management.

Efficiency in Converting Resources to Products:

- resource utilization: the raw materials being used/the number of products that result;
- energy use/tonne of product (per product category);
- water use/tonne of product (per product category);
- chemical use/tonne of product (per product category);
- use of recycled materials.

Value Added per Unit of Resources Consumed:

- by product/market segment: (e.g., wood);
- by non-consumptive uses of forest resource base;
- by contribution to balance of trade and to communities.

Consumption Index:

- recycled stock/virgin stock flows;
- net energy use per capita;
- waste generation per unit of output.

Existing data could be supplemented by new information as it becomes available. Based on more precise data, many types of indicators could be created, including:

- air pollution per unit of employment;
- net carbon dioxide emissions per capita; or
- rate of resource use per unit of product.

Indicators could also be developed on the basis of households, land area and other units of interest.



EDUCATING SOCIETY, FORMALLY AND INFORMALLY

To be readily accessible, information must be:

- accurately reported;
- disseminated quickly; and
- received by a well-educated public.

Although the media cover the economy thoroughly — in everything from television reports to an increasing number of dedicated publications — they have just begun to look at the way the economy is influenced by the environment.

Educating ourselves on issues of sustainable development can be compared to the steps that have resulted in vastly changed social attitudes and behaviour related to smoking. Among those steps:

- wide dissemination of scientific reports;
- successful lobbying of entertainment, as well as information, sources (smoking is no longer treated as a sophisticated social habit in movies and on television);
- enlisting children in environmental campaigns ("3R" programs; UV awareness projects; attempts to limit resource use); and

- persuading lawmakers, at the political and bureaucracy levels, to ensure that regulations, benefits, etc. are consistent with sustainable development targets.

In addition to educating others, society needs to be open to being educated in other ways of knowing. Aboriginal elders, for example, have an accumulated wisdom, often unrecorded, about the environment. All sectors could benefit from a better understanding and appreciation of Aboriginal peoples' spirituality, culture, and activities, which are environment-centred.

LINKING INFORMATION TO ACTION

Ontario needs the means of linking environmental, and social information; only then can we develop, carry out, monitor, and evaluate needed plans and actions. However, without integrated measuring and reporting systems, it is difficult to connect causes and solutions to problems. This may leave us unaware of the consequences of trade-off we make or of opportunities we may miss.

Our current information system is very complex and increasingly sophisticated; often, however, it is not focused on the most useful areas, analysed in an integrated manner, reported in complete and accessible forms, or linked to decision-making. Working toward sustainable development

does not necessarily mean collecting more data, but it does mean concentrating on more useful data, integrating and analysing them in a broader context, reporting results authoritatively and distributing them widely. Data must then be firmly linked to formal decision-making processes for planning, budgets, and other activities.

Citizens and consumers, too, need and want better information to live sustainably. Polls show nine out of ten Ontario residents feel sustainability will require significant lifestyle changes. But most point to confusion or lack of information as barriers to personal action. Information about the environmental sustainability of a given product would help people make choices in buying, using, and disposing of products; this would include data on:

- pollutants created in making the product;
- the residual waste once it has been used;
- the amount of material used; and
- its durability and efficiency.



SECTORAL VIEWS

Each task force of the Round Table and the Native People's Circle identified the need for better information on the environment; several agreed on some issues, including:

- the need for a comprehensive provincial data base;
- development of indicators of sustainability;
- the need for governments and industry to report regularly on how their activities measure up to sustainability standards;
- greater sharing of information between industry and labour and between large and small companies; and
- the need to give consumers the information necessary to make sustainable lifestyle decisions.

They suggested that we recognize the wisdom of the Aboriginal people, who have lived in what is now Ontario for centuries, and that we integrate both Aboriginal knowledge and ideas about sustainability into education and training programs.

Based on their research and consultations, the sectoral groups made several key recommendations on improving the collection, processing, use, and distribution of information. They recognize this as essential to restructuring for sustainability.

INFORMATION SYSTEMS

Transportation suggested that the provincial government develop and maintain a common, comprehensive, up-to-date provincial data/information base. It also recommended that the Government of Ontario develop and track a set of indicators for the transportation of both passengers and goods, to include:

- transportation energy per capita;
- transportation energy per vehicle;
- modal split;
- fuel share;
- energy efficiency and intensity by fuel share;
- emissions by fuel share;
- carbon intensity;
- total vehicle-kilometres travelled by region;
- passengers per vehicle;
- share of GDP for transportation: auto, steel, fuel; and
- air quality and ozone trends.

Forestry recommended a partnership among government, private industry, Aboriginal groups, and other forest users to fund and otherwise support development of comprehensive data bases on flora and fauna, as well as on cultural, spiritual, and historic sites. The group urged that high priority be given to the use of computerized information systems and forecasting models. These can integrate information and make it easier to reach goals in forest management planning.

Minerals suggested that the ministries of Natural Resources and of Northern Development and Mines annually and publicly report on the status of the sectors under their jurisdiction, including information about the environmental effects of their activities on air, land, water, and biota.

ASSESSMENT AND REPORTING

Three task forces identified the need for governments and industry to report on the state of the environment and on the environmental impact of their activities.



Urban Development and Commerce recommended that the provincial government take a leadership role in developing indicators of sustainability. They said further that the provincial and local governments should begin state-of-the-environment reports, with provincial ministries taking the lead and providing advice to local governments.

Forestry suggested that, in places where an inventory exists, a periodic audit be carried out to determine the state of the forest after use and the success of the users in meeting stipulated conditions and regulations.

Manufacturing suggested that the Government of Ontario, in co-operation with federal and local governments, develop a reporting system related to public objectives for environmental protection and sustainable development. Every two years, Ontario should publish and make widely available provincial "State of the Environment" reports.

The group said that economic development ministries should report every two years on the economic sectors for which they have jurisdiction, including their competitiveness, use of resources, use of technologies, employment and training levels, and other relevant data. These reports would also assess the environmental impact of these sectors and the state of the natural resource base on which they rely. The reports would also assess the effectiveness of current public policies and programs in promoting sustainable development.

CONSUMER INFORMATION

Four task forces identified ways of providing consumers with the information they need to make sustainable decisions.

Transportation suggested that all new vehicles sold in Ontario be labelled, information to include estimated emissions for a given distance, speed, and load.

Agriculture and Food recommended that a multi-stakeholder group explore ways to inform consumers that produce was grown under conditions ensuring the health and vitality of the soil, water, air, wildlife, and livestock.

Minerals suggested the provincial government, in conjunction with the Ontario Mining Association and the Canadian Association of Recycling Industries, establish consumer-education programs on product durability, life-cycle costs, and material recycling.

Manufacturing recommended that Ontario, in co-operation with the other provinces and the federal government, develop requirements for manufacturers to provide comparative information to consumers on the environmental impact of products manufactured in Ontario.

ABORIGINAL KNOWLEDGE

The *Forestry* task force, as well as the *Native People's Circle*, recognized the importance of Aboriginal knowledge in the sustainable use of land and resources.

Forestry recommended that foresters be trained to take into account the ecological, social, and cultural value of forests, and learn, as well, about traditional Aboriginal ecological knowledge and management systems.

MOORELANDS CAMP near Dorset has taken the usual children's summer camp a big step closer to sustainability. Its "Rainbow" program lets children discover an environmental ethic. The "green" activity, for example, is a no-trace canoe trip: choosing a naturally cleared campsite, foraging for fallen wood, not leaving a scrap of litter behind. In the

dining hall, zero waste is a competition. Each table has a compost tin for uneaten food. Tins are weighed after every meal, trying to reduce the previous low score. In camp and on picnics and canoe trips, children use only non-disposable dishes and are taught to sort and recycle all wrappings.

The *Native People's Circle* recommended that traditional ecological knowledge be applied to the development of roads, dams, mills, non-utility generating systems, co-generating stations, mines, and forestry operations and that resource management strategies incorporate this knowledge. This should be done, by Aboriginal people, in the planning process.

CORPORATE DISCLOSURE

The *Manufacturing* sectoral task force identified a need for corporate reporting and disclosure guidelines.

The task force recommended that the Government of Ontario use the Ontario Securities Act to require all public companies to report annually on their compliance with environmental statutes, regulations, standards, and guidelines for emissions to air, land, and water, and on their generation and management of hazardous waste.

The group also suggested that industry make available to investors — through annual reports and prospectus documents — information relating to compliance with environmental laws and regulations. These should also outline environmental objectives for the coming year, as well as assessments of actions necessary to comply with statutory requirements not currently being met.

The task force urged the Government of Ontario to encourage the Canadian Institute of Chartered Accountants to develop accounting and disclosure requirements for corporate liability in the case of environmental contamination.

The group also urged the government to review its present "compliance system" to encourage information sharing between the public and private sectors. The current approach tends to penalize the private sector for sharing information about its environmental performance.

Finally, the task force recognized the need for industry to produce inventories on the release of toxic contaminants. It recommended that, as an initial step in developing a program to provide comparative information for consumers, the Government of Ontario require manufacturers to produce emission inventories of toxic contaminants and of emission reduction and pollution prevention plans; such information should be publicly available.

PERFORMANCE STANDARDS

Two task forces identified a strong role for the private sector in monitoring its own activities.

Manufacturing recommended that — as part of a baseline assessment of current environment-related performance —

industry undertake a full review of its products, processes, procurement practices, and management systems to identify the impact they have, throughout their life cycle, on the environment.

The group also recognized a need for larger companies to act as mentors to smaller ones. It recommended that all industry associations in Ontario help members meet objectives for environmental protection and sustainable development. The development of generic codes of practice or of environmental auditing protocols would help the small-business sector in this regard. Major industry associations should also make available non-proprietary information on "clean" process and product technology, successful waste management practices, and process-optimizing techniques.

Agriculture and Food recommended that codes of practice be drafted which support a healthy environment and a sound economy and set standards against which actions can be measured and assessed.

INFORMATION SHARING

Forestry recommended that the forest industry establish joint

environmental committees in every workplace in concert with supportive policy administered by the ministries of Labour and of the Environment.



EDUCATION

Forestry recommended that forestry curricula be redesigned so that problem solving, conflict resolution, interpersonal, consultation and communication skills, as well as scientific skills, are developed, in order to produce a healthy balance of scientific inquirers and management practitioners.

Summary: Before we can hold people or organizations responsible for their decisions and activities, we need to ensure that they have the most current, accurate, and reliable information available. It not only supports better decisions, but also can build consensus among stakeholders for those decisions (the subject of Strategic Direction 3) and reinforces accountability for those decisions (the subject of Strategic Direction 4). High-quality information is possible only if formal links are created among our environmental, economic, and social systems and our major institutions: governments, communities, businesses, unions, hospitals, schools, and universities, among others.

RECOMMENDATIONS FOR IMPROVING DECISION-MAKING:

The Round Table believes the following actions are needed to ensure that more informed decisions for sustainability are made by individuals and organizations.

2.1 Information System

The Round Table recommends that the Government of Ontario develop an integrated information system, incorporating indicators of sustainable development, to measure progress towards sustainability. Such a system should meet the needs for more thorough, reliable methods of reporting on sustainability and for co-ordinated, relevant collection and measurement of data. As far as possible, this should be done using existing resources and co-operation among government ministries and agencies.

2.2 Consumer Information

The Round Table recommends that Ontario consumers be provided with product labelling and other forms of information about the environmental impact and sustainability of product and services. Where possible, this step should be co-ordinated with other jurisdictions.

2.3 Aboriginal Knowledge

The Round Table recommends that the Government of Ontario explicitly recognize and respect the ways in

TOWNSHIP OF PITTSBURGH, near Kingston, has taken a number of innovative steps within its existing powers to actively create a more sustainable community.

It challenged a local developer to rebuild rather than tear down century-old limestone walls for a housing subdivision. Most units sold sooner (in a depressed market) because of the community's environmental appeal: indigenous stone walls, intensive tree planting, energy-efficient streetlights, and other measures.

The township is building an 80-hectare "clean" industrial park: no imported materials (soil and rocks reused on site), rain holding ponds to feed local

aquifers, in-ground heat pumps, east/west streets to maximize solar heat, and all manufacturing to be indoors and closed-loop. Pittsburgh Council will also match buyers with environmental experts in order to ensure that the right decisions are made at the start.

When the town noticed a great deal of unwanted paint collected on its first Household Hazardous Waste Day in 1990, it persuaded a local paint maker to try reprocessing it, then painted the council chamber with the recycled product to prove its value. Now the company buys back waste paint from local residents, hospitals, and schools; saves on its raw material costs; and is able to sell recycled paint to buyers for less than new — benefitting everyone.

which Aboriginal knowledge can help Ontario move towards sustainable development. Therefore, the Government of Ontario, educators, the academic community, and other stakeholders should work with Aboriginal people to integrate their knowledge with scientific knowledge, as appropriate, in education, training, and decision-making.

2.4 Corporate Disclosure

- A. The Round Table recommends that industrial sectors and regulatory agencies jointly develop guidelines for voluntary corporate reporting and disclosure by 1993. This information should include, but not be limited to:
- compliance with environmental laws and standards;
 - performance, measured against accepted sustainability indicators for the given industry;
 - use of materials (virgin, recycled, toxic); and
 - the efficiency with which resources are being used.

Such information should be part of corporations' annual reports to their shareholders.

- B. The Round Table recommends that business be required to record and release inventories of toxic contaminants disbursed into air, land, and water, as called for in the National Pollution Reduction initiative.

2.5 Performance Standards

- A. The Round Table recommends that all industrial sectors develop environmental codes of practice, by which their members must abide. This can be achieved through consensus building among stakeholders. Such codes should include:
- efficient use of resources;
 - policies on air, water, and land pollution;
 - policies on waste management; and
 - information being provided to employees, customers, and the local community.

Chief executive officers should be required to sign these codes of practice as a condition of company membership in their associations. Such codes should be in place for large businesses by 1995 and for all small businesses by 1998. Joint employee/management committees should be set up to review corporate sustainability performance.

- B. Before making funding commitments, all businesses should analyze major capital projects for sustainability. Towards this end, professional associations and firms should develop standard sustainability analyses to guide companies in carrying out this process.

2.6 Information Sharing

The Round Table recommends that companies establish mechanisms to share information with employee and community groups on the environmental effects of their local operations.

Industry associations should encourage companies to share non-confidential information on:

- "clean" process and product technology;
- successful waste management practices; and
- methods to increase efficiency.



2.7 Education

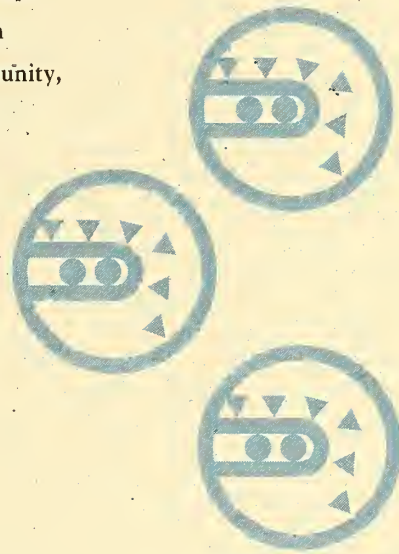
The Round Table recommends that educators, government, business, unions, and professional associations work together to develop a provincial framework for education in sustainability, one that crosses traditional disciplines.

A. Formal Education

Within this framework, courses, curricula, and materials should be developed for schools, colleges, and universities. The principles of sustainable development should be incorporated into existing courses. Specific courses in sustainability could be added to the requirements for all those seeking diplomas and degrees in engineering, technical, and other professions, including communications, journalism, and teaching.

B. Informal Education

Information and education programs on sustainable development should be developed and delivered to and through consumer, workplace, community, and other organizations, and through the media.



STRATEGIC DIRECTION 3: MOVING FORWARD TOGETHER

Traditionally, serious threats to health and safety are resolved, in the main, through government/public policy initiatives: Countries sign arms limitation or peace treaties. Judges impose harsher sentences on people who abuse children. The provincial government monitors the workplace.

At the very least, this gives some assurance that a problem has been identified and is being addressed. At a time when people are feeling increasingly out-of-sorts with their elected representatives, this gives them a focal point for dissatisfaction: "if only 'they' would do more, spend more, care more".

Certainly, governments have primary responsibility for safeguarding many aspects of environmental quality, whether it is by signing such international treaties as the Great Lakes Water Quality Agreement; taking action at the provincial level, through such mechanisms as MISA (the Municipal/Industrial Strategy for Abatement); or by initiating local activities (blue box programs, for example).

That said, however, there is one issue — the quality of the environment — that, more than any other, will be determined, in the long term, by individual decisions and behaviour. There may be regulations against dumping hazardous wastes, but if the paint can is thrown into a garbage bag it will wind up in a landfill, still hazardous. Cars will pollute the air until more people use public transit, ride bicycles or walk.

As discussed previously, people need more and better information if they are to change decision making and opt for sustainable development. But a further step is needed: all stakeholders — which, ultimately, means the broadest possible range of individuals and sectors — must be consulted before they can be expected to commit themselves to sustainability.

It is not simply that information must be widely disseminated: it must be based on the widest possible input. In other words, the flow goes both ways: from all stakeholders to decision makers; from decisions makers to all stakeholders.

That is certainly not happening now. The Round Table found that, without broad input, decisions are often based on insufficient information. Too many of our public processes are aimed at resolving after-the-fact conflict (a win-lose proposition), rather than the much different goal of building consensus (which highlights "winning" by all parties). Many interests either are not represented or not heard or they are encouraged to take adversarial positions rather than finding common ground on which they can agree.



GUELPH ROUND TABLE was formed in 1988 and has served several community roles. It has eased disputes between factories and neighbourhoods over noise and odours, between the school board and citizens over pesticide spraying, between McDonald's restaurants and Green Party critics over packaging, between a developer and environmentalists over saving wetlands. It has supported steps to curb waste at the General Hospital and at fast-food outlets, and to reduce chemical use by a local dry cleaner.

The Round Table hosted a public forum in 1991 on the environment and the economy. In workshops on manufacturing, agriculture and food, urban development, transportation, and forestry, participants raised and ranked major local issues.

More recently, the Round Table began producing a green plan for the city. Multi-stakeholder groups have been set up with expertise and interest in six areas: waste, water, energy, land-use planning, transportation, and business and industry. Each group is writing a section of a draft Guelph Challenge Paper describing issues, laws, and local actions and others elsewhere. It also poses questions on a range of short- and long-term solutions and will be the basis of a series of public panels and workshops, public meetings, and open houses.

Members of the round table have joined city councillors and staff on a committee to complete the green plan, which will be part of the city's strategic plan.

WHAT CONSENSUS BUILDING ACCOMPLISHES

In Ontario, as elsewhere, there has been a history of tensions between environmental and economic issues that has included: adversarial stances being taken and defended; long, expensive hearings; confrontation; and frustration with the conventional consultation processes.

This is another area in which the very existence of the Round Table marks a break with the past: it is an effort to bring together divergent interests and points of view, to move beyond staked-out positions to a better and broader understanding of the views of all the players, and all issues involved. In fact, members of the Round Table found a considerable degree of agreement among stakeholders. This, in turn, proved to be a solid base for reaching out even more widely, as was done in the sectoral task forces and Native People's Circle that contributed to this strategy.

But consensus building must be approached realistically. It is not decision making. Rather, it is a prior step to enable interested parties to find areas of agreement and to resolve their differences to the greatest degree possible.

Furthermore, consensus building does not replace the need for democratically elected governments and for private enterprise to make responsible decisions. Its value lies in its ability to help decision makers in all sectors make more informed and more acceptable choices.

MEETING PUBLIC EXPECTATIONS

Increasingly, people in Ontario, like people everywhere, expect to be consulted about decisions that will affect them. In the past, government and business made their plans and carried them out after choosing whether and whom to consult, and what to disclose. That changed most dramatically in the 1960s and '70s, when the governments and companies found - often to their complete surprise - that the old ways would no longer suffice.

The Brundtland Commission pointed out that the pursuit of sustainable development requires a political system that secures effective citizen participation in decision making. People want to feel that they are an important part of their community and of their province. This can only happen if governments and business seek out the opinion of a broad cross-section of interested individuals and actually involve those individuals in decision making processes. This is not a challenge to any existing authority or office, but an addition to our existing system of democracy and due process which arises both because of our increasing attention on individual rights and because the increasing complexity of issues and their interaction makes it unlikely that any one agency or organization could assemble the complete picture without the involvement of all interested parties.

Ontario has experienced many examples of confrontation over planning



and development decisions. Some have suggested that the public's frustration with government continues to rise. Yet the thorough and open consultative processes that have taken place have shown that when people are involved in the decision-making process, when they can see for themselves all the factors that the governments have to address, then, while they still might not like it, they are much more willing to reorganize their lives and their expectations to accommodate it. Equally, of course, local people are often able to bring to a consultation process important information that would otherwise have been overlooked. Many a poor decision has been averted or improved because concerned citizens were involved in the planning and decision-making process.

CONSULTATION

While consulting is a key facet of democracy, it is not necessarily tidy: often consuming time, energy, and resources. But it is essential to consensus building. Otherwise, environmental problems are addressed too late, long after damage has occurred and only in response to public pressure.

Although governments and the business community have become more aware of the need to involve those affected by their decisions, the quality of such consultation is often deemed to be inadequate. There are three common complaints:

First, "review and comment" exercises or open house meetings are often thought to be attempts to persuade people to agree to decisions that have already been made.

Second, participants claim that they frequently cannot get the information they need in order to make reasonable decisions. Third, in more adversarial settings, such as hearings, individuals or non-professional groups may find themselves unable to match the expertise or resources of proponents.

But, given that restructuring for sustainability involves taking into account the effects of choices on both the economy and the environment, consulting should be an early step in the decision-making process.

To be successful, consultation must include several elements: it has to begin by including all possible interests and be preceded by an information campaign to ensure that those interests are aware that consultation is being undertaken.

Most important, the goal of the consultation has to be clearly spelled out: is it simply to inform those with a stake in the outcome? to hear opinions? to engage in some form of dialogue? to attempt to reach some kind of agreement? to ensure that the final decisions reflect the views of those consulted?

In other words, there is a consultation continuum from least to most involved. The assessment of success or failure depends on a

clear-cut definition of the consultation goal, and expectations that are realistic in terms of that definition, before the process can begin.

BUILDING CONSENSUS

After three and a half years as members of the Round Table, our experience convinces us that consultation is essential to developing acceptable public policy; and that building consensus among all interests is an effective and necessary tool in restructuring for sustainability. We believe that consultation and consensus reinforce the best of our social and cultural values: democracy, freedom, justice, respect for others, and the right to hold, and express, personal views.

Achieving sustainability will require an unprecedented degree of innovation from in all parts of Ontario society. This will result from a multi-sectoral debate that engenders

creativity and permits a wider range of viewpoints, ideas, knowledge, and experience to be considered. Furthermore, working relationships will be created among interests that otherwise would not have the opportunity to work together.

Building multi-sectoral consensus is often the shortest (not to say the least costly and most efficient) way to deal with contentious issues. Unlike consultation, it involves negotiation and a willingness to compromise. Certainly, it offers a wider, more coherent view than the many narrow, fragmented processes now used. It is the way to create new partnerships and to generate trust.

A real consensus has been reached when there is unanimous agreement and the decision is represented as having the support of all those who participated in the process.



TEMAGAMI TOWNSHIP, with its forest and mining industries almost dead, has nothing to lose and much to gain by pursuing a course towards sustainable development. Its biggest push is into wilderness touring: canoeing, hiking, cross-country skiing, dog sledding, snowshoe touring, and mountain biking.

The Temagami Trails system will provide tourists with a range of landscapes,

ecosystems, and history. Temcor, a partnership of businesses and aboriginal people, is proposing to build a 40-unit hotel with an Aboriginal culture centre.

With better stewardship of its natural assets, Temagami believes it can turn a logging town into a sustainable community — including new methods of environmentally sensitive forestry and mining.

However, a consensus also can be said to have been reached if there is no fundamental disagreement with the decision; or if there is general agreement with the decision, but with the rider that some areas need further consideration.

While everyone may not agree with all elements of a decision when a consensus has been reached, the participants are willing to live with the decision as preferable to the alternative.

Integrating a consensus process into sustainable development planning is more likely to result in decisions that:

- are based on a multi-disciplinary approach;
- integrate economic, social, and environmental goals;
- consider future as well as present public interests;
- represent the combined knowledge of a wide range of interests; and
- involve people early in the decision-making process.

The multi-sectoral consensus process is likely to:

- deal more effectively with conflict between disparate interests;
- make more efficient use of scarce resources;
- allow greater participation by a wider range of interests, including those traditionally left out of decision-making processes;
- result in decisions acceptable to the widest range of interests; and
- enhance accountability throughout the decision-making process.

ABORIGINAL PEOPLE

Restructuring for sustainability is built on our society's relatively recent awareness of the fragility and interconnectedness of all aspects of nature. Finally, we have begun to acknowledge that resources have worth beyond their market value, that they must be used more efficiently, and protected more conscientiously. While such an approach may seem relatively new to most Canadians, it is consistent with the traditional view held by Aboriginal people, a belief that is often expressed in the adage "We did not inherit the land from our ancestors. We hold it in trust for our children."

The Aboriginal people who have been able to maintain a traditional way of life or retain traditional values, carry with them a cultural and ethical view of the world that is the essence of sustainability. It includes a world-view that holds all living things as equal, and that places on human beings responsibility for maintaining the health of the land.

It is based on the concept of community use of land and resources, and recognizes the artificiality of territorial boundaries in defining nature. Given the strong Aboriginal emphasis on community, and on sharing resources, it follows that consensus is the norm in Aboriginal decision making. (And it should be noted that, in reaching decisions, many Aboriginal groups look, not just to the present, but to the likely effects of those decisions seven generations from now.)

The efforts of Aboriginal people to preserve and apply their values are an important part of moving towards sustainability. Their success depends largely on the degree of say that Aboriginal communities have in their own social and economic development.

At present, Aboriginal people, particularly those living in southern Ontario, generate income through business activities and participate in the wage economy. Many still rely to a significant extent, however, on the harvest and on



using and exchanging local resources, goods, and services. In remote northern communities, these may be virtually the only way to ensure a livelihood.

This makes the economy in Aboriginal communities especially vulnerable to the state of the environment. But land and land-focused activities have great cultural, as well as economic, significance, which makes a healthy local environment critical to the sense of well being in Aboriginal communities.

The Brundtland Commission paid special attention to indigenous peoples, noting their isolation from the larger social and economic framework. That framework, the Commission's report concluded:

... is a symptom of a style of development that tends to neglect both human and environmental considerations. Hence, a more careful and sensitive consideration of [Aboriginal] interests is a touchstone of sustainable development policy.

The ability of Aboriginal communities to manage their own forms of sustainable development depends, to a large extent, on their access to resources, a proprietary interest in the land, a significant role in resource management, and a strong say in decisions that affect them. It depends, as well, on skills, education, business experience, community and commercial

infrastructure, and access to investment capital, labour and commodity markets, and technology.

Supporting Aboriginal economic development helps to promote sustainable development. Employment practices such as job-sharing allow Aboriginal people to participate in land-based, seasonal activities while maintaining mainstream jobs. Increased co-management of resources gives Aboriginal people a stronger role in local decision making; it will require an ability to reconcile different types of knowledge, management approaches, and ways of valuing and using the natural environment.

Ensuring that Aboriginal and other harvesters stay on the land further promotes sustainable development. As well as providing their communities with a supply of

nutritious food, for example, harvesters help boost community health and social independence. They can also play an important role in monitoring and maintaining the health of local ecosystems.

Included in the support necessary to continued land-based ways of life is official recognition that harvesters are employed in a legitimate occupation, creation of accreditation programs, and the right of harvesters who spend a specified amount of time in pursuit of traditional activities to unemployment benefits or cash allowances.

All sectors in Ontario must acknowledge that support for Aboriginal goals involving sustainability influence the economic health of Aboriginal communities, of surrounding regions and, ultimately, of all Ontario.

WALPOLE ISLAND FIRST NATION is on the St. Clair River 50 kilometres downstream from Sarnia. For Walpole, "sustainable development" is a new term for an old way of life — one based on a healthy local environment. Now caught between fertilizer and pesticide run-off from mainland farms and discharges and spills from chemical plants upstream, the residents of Walpole understand first hand that they do not live in isolation. Even the perception of contamination has hurt the island economy, half of which is based on tourism.

Walpole is joining with others working to restore the entire Lake St. Clair ecosystem. At home, it is trying to balance the preservation of cultural heritage and natural ecosystems with economic development — through sustainable agriculture, sport fishing and hunting, and other commercial ventures which have the least impact on the land and the gentle quality of life.

COMMUNITIES

Whether consulting or building consensus, decision makers have to realize that social, geographic, or ecological patterns rarely bear any relationship to jurisdictional boundaries: A community may be just one part of a large city or encompass several small towns that have common circumstances or interests. Certainly, communities cannot be sustainable in isolation from each other.



Especially since the end of the Second World War, development patterns have resulted in the development of housing, shopping, and workplaces that are almost always separated — sometimes widely separated — from each other. The pattern of low-density, single-family housing makes utilities expensive and public transportation inefficient. But in Ontario the pattern is supported by many forces: public attitudes and expectations, financing and economic interests, laws and taxes.

Cities are struggling with air and water pollution, poor land-use planning, solid and toxic wastes, poverty and lack of housing. Rural areas suffer from loss of farmland and natural habitat. Communities dependent on resource exploitation feel threatened by either pollution or loss of traditional resources or markets. In each case, people face change as sustainability forces efficiencies in the cycle of raw materials-processing-products-waste disposal.

One way to deal with this kind of change is through the use of the Round Table process, which offers a much wider range of interests, information, ideas, and even wisdom that can be brought to bear on issues.

A single environmental issue may well involve several federal departments and provincial ministries, one or more conservation authorities, a variety of municipalities, possibly a regional government, an Aboriginal government, parks users, and those who hold concessions on forests, minerals, and waters. Furthermore, it may affect economic and social interests. A Round Table can overcome the limitations imposed by such jurisdictional and sectoral splits and overlaps, which often make it difficult, or even impossible, to assign responsibility.

The Round Table's task force on urban development and commerce defined the goals of a sustainable community as:

- using renewable resources on a sustained-yield basis;
 - supporting a healthy and stable economy;
 - supporting equitable participation in decision-making; and
 - minimizing waste and pollution.
- These goals mean that communities must become more oriented towards their natural environments. In practical terms, housing, shopping, and working land uses will be mixed. This is already causing a fundamental shift in the thinking of city planners: away from the view of low-density zoning as a priority, in favour of more compact and efficient land use (i.e., higher densities). It means more efficient use of transportation heating, lighting, and cooling systems, and greatly reduced use of water and production of wastes.
- A sustainable community is one with a diverse and secure economic base that has a minimal impact on the environment. It produces a minimum of air, water, and soil pollution. It is a community in which reducing, reusing, and recycling is the accepted norm in business and home life.



Being part of a sustainable community need not reduce the quality of life — it should improve it. As public attitudes to the environment/economy shift towards sustainability, communities will place more emphasis on satisfaction and well-being, rather than merely on unlimited growth and municipal giantism.

Increasingly, people cherish opportunities for greater participation, less congestion, and lower levels of pollution. Many communities, organizations, and individuals in the province already give evidence of a commitment to sustainability. Despite recent economic concerns engendered by the recession, awareness of environmental issues remains high. Such issues do not and will not disappear: global warming and ozone thinning, pollution and toxic wastes, dwindling resource bases — all will remain irrespective of economic circumstances.

As municipalities feel the increasing pressure to restructure for sustainability, they may open their advisory and decision making processes to a wider range of views. This energizes citizens to act on issues of sustainability — individually, on the job, as part of the family, and of the larger community.

The need to cut across jurisdictional barriers does not necessarily mean creating new umbrella levels of government or new agencies to deal with particular issues. Solutions are more likely to be found in

processes — like consultation, local round tables, and consensus building — that bring existing interests together to work toward a common goal.

SECTORAL VIEWS

The following are the key recommendations of the sectoral task forces, and of the Native People's Circle in respect of consultation and consensus.

SHARING RESOURCES AND INFORMATION

The *Native People's Circle* recommended that the provincial government set up a Common Support Fund for impoverished communities that want to create and carry out sustainable development action plans.

Manufacturing recommended that both public and private sectors establish and share information bases to identify sustainable development initiatives, whether successful or unsuccessful.



MOOSE RIVER/JAMES BAY COALITION is finding and funding independent, efficient energy sources for isolated aboriginal communities now reliant on diesel generators. The coalition's northern efforts will be supported by a

TECHNOLOGY TRANSFER

Manufacturing recognized the importance of sharing local know-how and technology. The task force recommended that the private sector make concerted efforts to export technical services and appropriate technologies to the developing countries and Eastern Europe. It also recommended that the Ontario manufacturing sector set up and participate in an institute for appropriate environmental technology transfer.

WORKPLACE ROUND TABLES

Sectoral task forces recognized that sustainability depends on employers and employees working together.

Forestry suggested the forest industry establish joint environmental committees in every workplace in concert with support from the ministries of Labour and of the Environment.

Manufacturing recommended that all Ontario-based employers co-operate with employees to set up joint programs to identify and use efficient process and product technologies.

Toronto business selling energy-efficiency appliances and services. The profits will be put into energy initiatives in dependent, cash-poor communities, making them both environmentally and financially more sustainable.

LOCAL ROUND TABLES

Urban Development and Commerce noted that the Round Table model provides a new means for achieving multi-stakeholder involvement and providing informed input to decision-makers. The task force recommended support and encouragement for establishing local round tables.

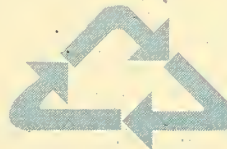
ABORIGINAL CO-MANAGEMENT OF RESOURCES

The *Native People's Circle* pointed out that co-management of resources helps Aboriginal economies and is a means of integrating Aboriginal resource management strategies into decision-making.

SELF-GOVERNMENT AND SUSTAINABILITY

The Circle recommended that First Nations and other Aboriginal communities document their conservation strategies, including an enforcement policy for policing the harvest of fish, game, and other resources. It also recommended that when land claims are accepted for settlement negotiations, the parties identify areas of land that might be included in such a settlement. The Government of Ontario should enter into interim or other arrangements with the Aboriginal community to ensure responsible management of these areas.

Summary: Despite the many democratic institutions and processes already in use, opportunities for participation in shaping Ontario's public agenda are too narrow and fragmented. Consultation must be genuine and well defined. On the basis of experiences, members of the Round Table believe that multi-stakeholder consensus process can advance common understanding and appreciation of diverse views.



Aboriginal people have a special contribution to make and should be supported in demonstrating sustainable lifestyles. Local participation at the community level and in the workplace can identify and build on common interests. Specific ways of responding to these challenges include: Round Table-type consensus processes at the provincial and community levels, a Common Future Fund to create new partnerships and techniques, planning for whole ecosystems, and building sustainability into Aboriginal self-government.



GREENPRINT started as a citizens' initiative for a cross-sectoral approach to regional environmental problems in the Ottawa-Carleton area. It has evolved into an action-oriented Round Table consisting of seven working groups and coordinated by a Committee of Stewards. It brings together government, community groups, and individuals to address such priority issues as land-use planning and management, transportation, energy, water quality, reducing/reusing/recycling,

hazardous waste, and public education for lifestyle change.

The Round Table is supported by contributions from local industry, small businesses, financial institutions, two levels of government, Boards of Education, and community groups. Discussions and actions build upon the recommendations of a **GREENPRINT** document, written as a result of past all-day community forums.

RECOMMENDATIONS FOR MOVING FORWARD TOGETHER

The Round Table believes the following actions are needed to ensure Ontario citizens full and meaningful roles in restructuring for sustainability.

3.1 Building Consensus

The Ontario Round Table recommends that the Government of Ontario continue to provide a forum for building consensus on sustainability among all major stakeholders.

3.2 Public Input

The Round Table further recommends that the Government of Ontario ensure opportunities for the broadest public input, within reasonable timelines, when it is preparing to set standards, pass regulations, or create guidelines.

3.3 Common Future Foundation

The Round Table recommends that the Government of Ontario, along with Aboriginal governments, industry, and labour, jointly and voluntarily plan and invest in a Common Future Foundation. Such a foundation should be designed to encourage and support new partnerships and new techniques that result in sustainability. In particular, it should be the venue for

demonstration programs and community projects. For example, communities might be challenged to make proposals for projects that demonstrated local sustainability.

3.4 Local Round Tables

The Ontario Round Table recommends that cities, towns, and regions throughout the province create local Round Tables. These should be fully representative, seek consensus on issues affecting sustainability, and provide advice on local development. Such advice should be integrated into municipal decisions. In order to participate as equals, local people may need access to information and other resources.

3.5 Workplace Round Tables

The Ontario Round Table recommends that joint Round Tables, comprising representatives of management and employees, be set up in workplaces, to ensure the development of a common understanding of opportunities and constraints related to sustainability.

3.6 Self-Government and Sustainability

The Round Table recommends that negotiations on Aboriginal self-government give priority to ensuring that the results contribute to sustainability. The six principles in this strategy, and use of sustainability indicators would be useful in this regard.

3.7 Aboriginal Co-management of Resources

- A. The Round Table recommends that Aboriginal First Nations be empowered to document, monitor, and implement their traditional resource use methods to encourage conservation.
- B. It further recommends that co-management agreements be fostered between Aboriginal communities and the Government of Ontario, as a method of achieving sustainable development. Similarly, when an Aboriginal land claim has been accepted for negotiation, the Government of Ontario should continue to make interim or other arrangements with the Aboriginal community to ensure responsible management in areas of land identified for possible inclusion in the settlement.

STRATEGIC DIRECTION 4: ENSURING ACCOUNTABILITY

Up to this point in our report, we have dealt with the necessity of restructuring for sustainability and have suggested two key changes needed to attain it: better information and education, more broadly based consultation and consensus. We turn now to the matter of accountability.

A key to broad acceptance of sustainability is the sense that all sectors of society, individuals included, are held accountable for the environmental and economic consequences of decisions and activities. Over time, accountability has the potential to:

- enhance creative problem solving that leads to innovative solutions;
- lead to more integrated, anticipate-and-prevent policies and programs by governments and reduce the costs associated with current react-and-cure strategies;
- encourage industries to use products and processes that are less environmentally harmful;
- assist in identifying and developing new markets, creating new businesses and jobs;
- reduce employers' vulnerability to environmental liability;



- improve environmental awareness and understanding in all sectors of society; and
- give all citizens a greater sense that their concerns are shared by business, industry, and government.

PREPARING FOR ACCOUNTABILITY

In both a legal and a moral sense, it is difficult to hold responsible any person or entity unaware of environmental problems and the consequences of a given action. However, the rights and freedoms of individuals and organizations in a democratic society must be balanced with the need to safeguard present and future generations and the world in which we live.

Therefore, education and information, which we have identified as key factors in decision making, are also vital to accountability. Sustainability reporting, and the indicators essential to it, are fundamental to any efforts in educating and informing all sectors of society.

AN ACCOUNTABILITY CHECKLIST

Accountability has to be established early in the decision making process. Among the most important questions to be answered:

- What is the purpose of this product, service or activity?
- What is known about its effect on the environment?
- Is there any substitute material, process, design, or activity that would have an environmentally neutral or positive effect?
- Is there any way of offsetting a potentially harmful effect?

These questions must be examined as carefully by the family buying a new car or refrigerator as they are by the chief executive officer or the minister of a department of government. Asking — and answering — them early in the process (whether the process is intended to result in a new dam or a new coat of paint for the house) would make it easier to prevent environmental decline, rather than continuing to deal with its symptoms.

TAKING RESPONSIBILITY

Polls indicate that a majority of Ontario residents believe that, as individuals, they can make a difference to the quality of the environment. Similarly, many say they have changed their buying decisions because of environmental concerns.

The Round Table recognizes that, even when people are willing to change their attitudes and activities, there are real barriers to assuming responsibility for decisions that lead to sustainability. For example, those with lower incomes tend to buy older, inefficient vehicles that pollute. Or, for reasons of health or lack of opportunity, some people may not be able to participate in even the most enthusiastic campaigns to get people out of cars and onto bicycles.



But there are other areas in which the vast majority of us can act. For example, the people of Ontario, along with most other Canadians, have to accept responsibility for a high per capita rate of resource consumption and for buying and use decisions that contribute to waste disposal problems.

The Round Table believes that there are mechanisms for dealing with these problems, among them: legislation, economic instruments, and pricing that forces environmental considerations into mainstream economic decision-making. The success of any strategy for sustainability, however, also depends on the aggregate of lifestyle choices made by individual consumers.



INSTITUTIONS

In order to meet their obligations and to fully understand the concept of accountability, private and public organizations will need:

- new accounting procedures that include environmental factors;
- more flexibility in using their human resources; and
- more openness to new information and techniques as these become available.

Governments will have to systematically analyze policies and programs to formally determine accountability. Businesses, from manufacturing to retailing, will need to review products and processes against common sustainability criteria.

These and other steps should be based on clear standards by which the effectiveness of government programs and of private products and processes can be measured.

Other considerations include:

- Who should ensure accountability?
- What information systems are needed to support accountability? What should be measured? What should be reported? When and how, often?
- Who or what should be held accountable: the person? The company? the community? the government department?
- What should be the relationship between reporting and accountability?

THE CITY OF BURLINGTON

established a Sustainable Development Committee in June 1990. In its first term, the Committee formulated a set of principles and objectives that help define sustainable development and which can be used in planning and other municipal decisions by Council.

The Committee ran successful workshops on: resource efficient commercial buildings; stormwater management in a sustainable urban community; and "greening your garden". A draft by-law on unsolicited commercial advertising material was

prepared for consideration by Council and policies surrounding the use of chemicals, and purchasing, were examined. The Sustainable Development Committee is participating in the revisions to the official city plan.

Future possible initiatives are: a public awareness and education program including a speakers bureau of experts, and a series of workshops on user pay for waste, leaf composting, fiscal impacts of development, downtown development and the official city plan.

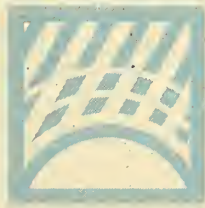
Methods of ensuring accountability include:

- broader use of financial audits and accounting techniques to include environmental factors;
- modifying or expanding existing monitoring and reporting systems and creating needed new ones;
- gathering better baseline information on the environment and its myriad systems.

Some companies in the fields of environmental, energy, and waste management are using financial auditing as a model for environmental auditing. This could be greatly expanded to assess the sustainability practices of both public and private organizations.

While economic and financial analyses of projects and programs are commonplace in both the public and private sectors, environmental impact analyses are more rarely carried out though some banks are beginning to require them from potential borrowers.

Professional and corporate codes are intended to ensure a high level of ethical activity and a strong element of public accountability, especially in sectors that are self-regulating.



Several organizations have set up environmental committees in their boards of directors to oversee their policies and programs. Many corporations now have environmental departments, some reporting to senior management.

COMMUNITIES

Communities have a practical interest in a healthy local environment. Residents, who have a long-term investment in the community and who will have to live with the consequences of a decision, should, therefore, be significantly involved in the decision making process. Certainly, they should play a strong role in decisions about the use of local resources and the condition of the local environment.

In order to come to the table as equals, communities may require access to resources such as information and support staff. If local decision making is to be fully effective, a means must be developed to ensure that these resources are available.

ABORIGINAL PEOPLE

Aboriginal communities may find their way of life threatened by loss of forest habitat, pollution, flooding and other consequences of development. To avoid such consequences, they have opposed a number of forestry, hydro-electric, and other

development projects across the province. These types of interventions are costly both in terms of time and money.

Aboriginal people have rights, supported by the Constitution and the courts, to fish, hunt, and have access to resources on Crown lands, as well as on their own reserves. In recognition of these rights, the Government of Ontario has moved towards co-management and shared jurisdiction over resources.

It has also recognized the inherent right of Aboriginal people to self-government. Although details are being negotiated, self government will probably mean different approaches to managing lands and resources. It will certainly increase Aboriginal jurisdiction over a range of issues. It is acknowledged that self-government is not separable from access to resources and a land base that will support economic self-sufficiency.

By supporting local decision making and Aboriginal self-government, Ontario is moving towards sustainability. The increased participation of people in decisions that affect their communities is likely to have both economic and environmental benefits.

However, to ensure that decisions do not lead to short term economic gain at the expense of the environment, governments must provide a framework within which decisions made at the local level are sustainable. In negotiations leading towards

self-government, Aboriginal and other governments should explicitly include discussions of sustainability.

INDIVIDUALS

To be effective, a strategy for sustainability must reflect the reality of every-day life. For example, most people are more comfortable with incremental rather than radical change in their lives.

They are more likely to alter an activity or choice — the speed at which they drive, for example, or the fuel efficiency of their vehicles — than to eliminate it entirely. They are also more likely to accept measures that preserve a wide range of individual choice.

The challenge for those promoting sustainability, therefore, is to continue to provide a variety of goods and services that are needed, wanted, and expected — but to do so in a way that consumes fewer resources, has less impact on the environment, and supports social goals such as equity.

Many of the decisions needed to move us effectively towards sustainability will be complex, with linked components. They will have to promote economic health, increased human well being, and a healthy environment. They will also have to support more efficient use of financial, human, and physical resources:

ROYAL BANK, being in the business of finance, is acutely aware that sustainable development means balancing a healthy economy and a healthy ecology without sacrificing one for the other. So when Royal Bank formalized an environmental policy in 1990, it decided the policy had to be comprehensive, ensuring environmental awareness throughout the organization. The Bank knew it had a role, like every company, in making sure its operations and policies were in line with the principles of sustainable development. And, as a lender, the Bank needed to be concerned about environmental credit risk and lender liability and the impact they have on borrowers and on the availability of credit.

In 1991, Royal Bank recycled 2,800 tons of paper, an increase of more than 130 percent over 1990. And the Bank continues to increase its purchase of recycled material as well. But recycling isn't limited to paper. For example, Royal Bank uses recyclable plastic night deposit bags; even cafeteria cooking grease and silver from microfiches are recycled. In 1991 Royal Bank stepped up its energy conservation efforts, distributing a set of guidelines to real estate managers across the network.

Beyond operations, Royal Bank actively looks for clients in the environmental field through its venture capital subsidiary, Royal Bank Capital Corporation. And as North American representative on the United Nations Environment Programme advisory group on Environment and Commercial Banks, Royal Bank helped draft UNEP's international guidelines for the banking sector.

The last couple of years have marked increased vigilance in the enforcement of environmental legislation and the Bank's credit processes are keeping pace with the changes. Environmental risk is factored into the overall evaluation process and if, on the whole, the business risk is unacceptable, the loan will be turned down.

Banks can't be environmental guardians. They have to depend on legislators and environmental experts to set the standards. But Royal Bank believes it has a role to play by putting the principles of sustainable development to work in its operations and by offering expertise on the economic impact of environmental legislation. As well, by factoring environmental risk into credit decisions, the credit process itself has a positive ongoing impact on sustaining both a healthy economy and a healthy ecology.

SECTORAL VIEWS

Although not everyone will participate in formal decision-making processes, it is likely that, in future, these processes will involve more communities and interest groups. Those who participate will require:

- time and opportunity;
- information about ecological, social, and economic processes; and
- research, critical thinking, and interpersonal skills.

To a significant extent, living sustainably involves understanding the relationships between individuals and nations, between humans and the rest of the natural world, and throughout the natural world. This understanding is based primarily on experience: dealing, formally or informally, with complex problems. It can be enhanced by education and by opportunities to observe the natural environment at first hand.

As society moves towards sustainability, it will become as natural to consider the health of the environment as it is to consider one's own health or that of one's family. (And it is worth remembering that the health of the environment often determines the long-term health of individuals and families).



Having told the Round Table that there is a need to make better, more sustainable decisions, sectoral task forces emphasized the importance of accountability for the results of these decisions.

They recommended that the Government of Ontario make sustainability an important standard in all policies, programs, and budgets and that environmental issues be given priority in its decision making. They proposed, too, that the Government of Ontario create a framework within which municipal governments could make more sustainable decisions. They suggested that all government ministries report regularly on how they are meeting environmental, as well as their economic, goals.

Based on the research and consultations undertaken by the task forces and the Native People's Circle, the following are key recommendations for ensuring accountability in decision making.

CABINET REVIEW

Manufacturing recognized a need for a high-level review of government programs, legislation, and policies, undertaken in the context of sustainability. This review should cover tax policy, annual budgets, and incentive programs as well as regulations and standards for environmental protection. The task force recommended that, before they are considered by Cabinet, public policies

and projects with the potential for significant impact on the environment be subject to environmental assessment.

SUSTAINABILITY STRATEGIES

Three task forces recognized the need to move strategically towards sustainability.

Urban Development and Commerce suggested that the Government of Ontario prepare a provincial policy framework for sustainable development, to provide guidance to municipalities. The province should set broad standards that municipalities can interpret and apply at the local level.

Forestry proposed that all existing government programs be examined and modified to ensure they support the movement towards more sustainable practices. Any review or change should be carried out in consultation with stakeholders.

Manufacturing recommended that all provincial ministries dealing with economic development report every two years on the sectors over which they have jurisdiction. These reports would describe the competitiveness of the sectors, their use of resources, technologies in place, employment and training levels, and other relevant economic data. They would also assess the impact the sector has on the

environment and the condition of the natural resource base on which the sector relies. Furthermore, the reports would evaluate current public policies and programs against sustainable-development criteria.

SUSTAINABILITY ANALYSES OF MAJOR PROJECTS

Manufacturing recommended that industry undertake environmental impact assessments before committing money to major projects or undertakings. Industry must be prepared to involve the public in the review of options under consideration.

OUTSIDE DIRECTORS

Manufacturing recommended that industry consider appointing environmentalists and representatives of other appropriate groups to boards of directors. When developing corporate strategies, industry should work with these groups to broaden the range of options and improve the environmental impact of corporate decisions.

PLANNING

Both the *Transportation* and *Urban Development and Commerce* task forces recognized that good planning can make a significant contribution to sustainability.

Transportation suggested that the province examine planning for Northern Ontario and for the Greater Toronto Area (GTA). The group recommended that the provincial government, in conjunction with stakeholders, undertake a comprehensive and ongoing review of the transportation needs and potential in Northern Ontario. It also recommended that the provincial government re-examine the GTA plan and scenarios and develop a growth-management strategy that reduces dependence on cars.

Urban Development and Commerce recommended that the government prepare a provincial policy framework for sustainable development to provide guidance to municipalities. The province should review conditional-funding programs related to urban development to ensure that they encourage sustainable practices. The task force also recommended that municipal governments review all local policies and programs to ensure they are consistent with sustainability objectives.

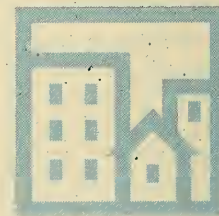
Summary: At present, decisions are being made in the absence of criteria that are based on common standards that are clearly understood. To make more sustainable decisions, consumers need better information. Among the possible ways of achieving individual and corporate accountability: internal environmental reviews in government and business; a provincial strategy to manage urban and regional growth; more ecosystem planning and decision-making undertaken at the community level.

RECOMMENDATIONS FOR ENSURING ACCOUNTABILITY

The Round Table believes the following actions are needed to ensure people and organizations are encouraged to make decisions for sustainability and are held more fully accountable for their decisions.

4.1 Commissioner of Sustainability

The Round Table recommends that the Government of Ontario establish an office of Commissioner of Sustainability, equivalent in stature to the Provincial Auditor. Based on a set of appropriate indicators, the commissioner would report on Ontario's efforts to achieve sustainable development, including the initiatives in this strategy. A commissioner should be appointed by the provincial legislature by 1994 and begin making annual reports to it in 1995. The reports should be timely, thorough, understandable, and authoritative. They should include, among other things, the measurable costs of inaction.



4.2 Cabinet Review

The Round Table recommends that all proposals requiring Cabinet approval be analyzed in terms of their environmental and economic sustainability. The Cabinet Office or other designated agency should also have a mandate to:

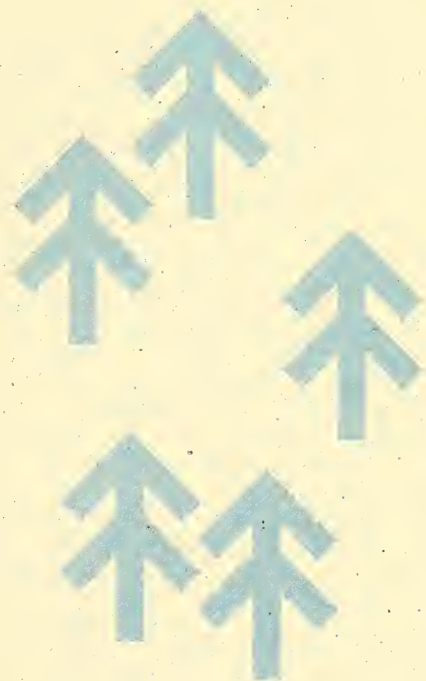
- develop, by 1993 and in co-operation with all relevant ministries and Crown agencies, a common set of criteria to be applied to all proposals for new policies and programs, beginning in 1994;
- ensure consistent use of such criteria by all ministries and crown agencies; and
- beginning in 1994, analyze the environmental implications of all provincial budgets, the analysis and budget to be tabled simultaneously.

4.3 Sustainability Strategies

The Round Table recommends that, by 1995, every ministry and Crown agency be required to develop a strategy for sustainable development; this should be done in co-operation with its clients and other stakeholders, should be based on the Round Table strategy, and should include the criteria described earlier. After the strategy has been approved by Cabinet, all new programs, policies, laws, and other activities should comply with it and all existing programs, policies, laws, and other activities should be reviewed for compliance by 1997. Any non-sustainable activities should have specific expiry ("sunset") dates.

4.4 Environmental Committees and Boards

The Round Table recommends that public and private companies establish environmental committees of their boards of directors.



The MUSKOKA HERITAGE FOUNDATION helps private landowners to learn to be good stewards of their natural lands through education and practical help. Starting in 1990, the Stewardship Program has informed over 500 people of the special qualities of their lots and how to protect the natural values while making use of their land.

Landowners become "Land Stewards" by enrolling in the program. They are walked through their property to evaluate it and discuss goals for it. Then they are helped to develop a conservation plan for the woodlands, shorelines, wetlands, scenic view and other features. The Foundation is also exploring other creative approaches such as donations of land, easements on properties, and cluster development.

GLOBAL WARMING: A CASE STUDY

INTRODUCTION

In June, 1992, the political leaders of many nations assembled in Rio de Janeiro, Brazil, and affixed their signatures to the United Nations Framework Convention on Climate Change. As one of the highlights of the United Nations Conference on Environment and Development (UNCED), the signing of the Convention was a turning point in international cooperation on what many people consider to be the most complex and challenging sustainability issue. The Climate Change Convention was disappointing in its lack of resolution on key issues, such as setting firm targets and schedules for greenhouse gas reductions, but the concerns raised by both developed and developing nations during the negotiations leading up to the Rio Conference unveiled a broad range of problems underlying implementation of the concept of sustainable development.

This case study is presented to test the application of the Round Table's principles of sustainable development against the issue of global warming. Many of the problems identified in the negotiations for the Climate Change Convention must also be faced and resolved by Ontario. There are no easy solutions for an issue of the magnitude of global warming, so it is essential to guide problem solving and decision making by widely accepted and stable principles, such as those offered by the Round Table's principles for sustainable development.

The Round Table's objective in preparing this case study is to stimulate debate and action on global warming since this issue, more than any other, will have to be resolved through vision and leadership by all sectors of society and by individual initiative.

THE ISSUE OF GLOBAL WARMING

Many years of scientific measurements at observing stations in Canada and around the world indicate unequivocally that the atmospheric concentrations of the "greenhouse gases" (carbon dioxide, methane, the chlorofluorocarbons, nitrous oxide and ground-level ozone) are increasing rapidly. By 1990, carbon dioxide and methane concentrations in the global atmosphere had reached values higher than the Earth has seen in more than 160,000 years. The rising concentrations, due to human activities such as the burning of fossil fuels, various industrial processes, and changing land uses, are enhancing the natural greenhouse effect, resulting in additional warming of the Earth's surface.

(Source - Climate Change and Canadian Impacts: The Scientific Perspective. Climate Change Digest 91-01, Environment Canada, 1991.)

The Intergovernmental Panel on Climate Change (IPCC), which is the major official forum for international study of the impacts of climate change, has predicted that the global mean temperature will increase above pre-industrial levels by more than 2 degrees Centigrade by the year 2050 and 4 degrees Centigrade before the year 2100. The result will be higher temperatures than have occurred in recorded history. Moreover, increased variability in climate patterns and the possibility of "surprises" must be considered since the rise in global, sub-continental and regional temperatures may not be linear.

If no response measures are taken, greenhouse gas emissions from most sources will continue to increase significantly. Under the IPCC "business as usual" scenario, it is estimated that carbon dioxide emissions, which account for over 50% of the anthropogenic greenhouse gas effect, will increase from approximately 7 billion tonnes of carbon in 1985 to between 11-15 billion tonnes by the year 2025. Other greenhouse gas concentrations will also rapidly increase, except for CFCs which will be reduced under the Montreal Protocol. With reductions in CFCs the energy sector will contribute some two-thirds of the human-induced greenhouse forcing over the period 2000 to 2025. (Climate Change Digest, 91-01)

PRINCIPAL GREENHOUSE GASES

(based on global emissions)

Gas (Common Name)	Contribution to total radiative effect (1980-1990)
CO ₂ (Carbon dioxide)	55%
CH ₄ (Methane)	15%
CFCs (Chlorofluorocarbons)	24%
N ₂ O (Nitrous oxide)	6%

(Source - Climate Change and Canadian Impacts: The Scientific Perspective. Climate Change Digest, Environment Canada, 1991.)

According to the Climate Change Digest, nearly 60 Canadian studies of potential climate change impacts have been completed since 1984. Bearing in mind that the reliability of impact predictions decreases at regional or local geographic scales, some highlights of the implications for Ontario include:

- Great Lakes shipping volumes would likely increase because of the extended ice-free season; greater costs, however, would occur because of lower water levels;
- Resident fish species could disappear from the Great Lakes; studies have shown that more than 30 new species may invade the Great Lakes;

- Residential winter heating requirements would decrease, but summer cooling requirements may increase; hydro-electric power generation would decrease in southern regions, but increase in northern regions;
- The growing season would be lengthened by about 50 days in northern areas and by about 60 days in southern areas; moisture stress in the south would decrease the yield of current major crops; grain, corn, wheat and soya beans would become viable crops for northern areas, where soils permit;
- Major marsh areas would dry out, reducing wildlife habitat;
- The potential would exist for the eventual northward displacement of forest zones; for a future increase in hardwood forests and decrease in boreal forests; forest growth rates would increase; damage to forests from disease, insects and fire may increase; winter logging operations would be reduced;
- The Southern Georgian Bay ski industry could be eliminated.

The "issue" of global warming, as it is currently understood, revolves around the potentially high cost and uncertain impact of the measures required to decrease greenhouse gas emissions. The scientific assessment that some warming will occur no

matter what control measures are taken raises the question of what actions should be taken and when to reduce greenhouse gas emissions despite the uncertainty over scientific and economic projections of the benefits, costs and distributional impacts of such actions.

It is in this context that the six principles of sustainable development must be applied.

APPLICATION OF THE PRINCIPLES OF SUSTAINABLE DEVELOPMENT

Six fundamental principles of sustainable development were identified during the Round Table's research and consultations (see Chapter 1 for a more detailed explanation of the principles):

1. Anticipating and preventing problems are better than trying to react and fix them after they occur.
ANTICIPATION AND PREVENTION
2. Accounting must reflect all long-term environmental and economic costs, not just those of the current market. FULL-COST ACCOUNTING
3. The best decisions are those based on sound, accurate and up-to-date information. INFORMED DECISION-MAKING

4. We must live off the interest our environment provides and not destroy its capital base. **LIVING OFF THE INTEREST**
5. The quality of social and economic development must take precedence over quantity. **QUALITY OVER QUANTITY**
6. We must respect nature and the rights of future generations. **RESPECT FOR NATURE AND THE RIGHTS OF FUTURE GENERATIONS**

The first principle, **ANTICIPATION AND PREVENTION**, captures the essence of the global warming dilemma — should we act aggressively now at potentially great cost with no clear understanding of the nature and distribution of the benefits of such action, or wait to act until sufficient information and evidence exist to accurately assess the full costs and benefits. The principle of anticipation and prevention, in and of itself, requires that some actions be taken now, given current estimates of the serious problems that global warming could create. The argument for action is strengthened by the possibility that some of the changes due to global warming may be very long-term or even irreversible. The consequences of the worst case scenarios for global warming are potentially catastrophic, thus further reinforcing the need to act with determination.



The need to act now has been recognized in the Framework Convention on Climate Change, which states, “The Parties should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that all policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost.” (Article 3.3) Thus, action should be taken to minimize and prevent global warming, with careful attention given to designing the most cost-effective approach.

The second principle, **FULL-COST ACCOUNTING**, provides a conceptual basis for bringing “externalities” into the market economy and into public policy making and decision-making. The existing system of economic incentives and market prices does not even begin to incorporate the external costs of greenhouse gas emissions as they relate to global warming. The application of the principle of full-cost accounting and the related principle of full-cost pricing to the issue of global warming supports the elimination of subsidies for activities that lead to the emission of greenhouse gases, and can be used to argue for substantial increases in the price of sources of greenhouse gases, including fossil fuels in particular. The use of appropriately

designed economic instruments, such as a carbon tax and tradeable emission rights for greenhouse gases, would also facilitate the shift toward global atmospheric sustainability.

The development and implementation of economic instruments to deal with global warming would have to factor in many economic and social concerns, such as the impact on the international competitiveness of Ontario industry and the potential for undesirable distributional impacts on different regions, industry sectors, groups and individuals. It should be noted, however, that measures to promote energy efficiency and pollution reduction also create jobs. Thus, a large amount of analytical work and extensive consultations with those who may be affected either positively or negatively by the use of economic instruments would be essential.

In addition to economic instruments, the principle of full-cost accounting argues for the need to carefully inventory and monitor the various “sources” and “sinks” of carbon and other greenhouse gases in resource stocks, such as forests. Reforestation, for example, can remove carbon from the atmosphere, contributing to the control of carbon dioxide and giving us more flexibility in responding to the global warming issue. Forest plantations on selected sites, including abandoned farmland, can sequester atmospheric carbon. And biomass can be used as an alternative to fossil fuels.

Government and forest industry policies must therefore be broadened to incorporate the full costs and benefits of harvesting and regenerating Ontario's forests. Similar considerations also apply to other resource sectors, such as agriculture.

With respect to the third principle, INFORMED DECISION-MAKING, the majority of scientific opinion considers global warming to be inevitable, though there is less agreement on the nature and distribution of the environmental, economic and social impacts that might occur under various greenhouse gas scenarios.

Global warming raises profound ethical and moral questions that transcend the ability of either science or economics to answer. At a minimum, the principle of informed decision making supports the immediate implementation of some greenhouse gas control measures. The principle also supports greatly increased efforts to measure, analyze, educate people and debate the issue of global warming. While recognizing that the costs of measurement and analysis may be considerable, the urgency of the situation, suggests that such efforts occur without delay.

The fourth principle, LIVING OFF THE INTEREST, reinforces the need for a "conserver" society, in which nature's resource capital and biodiversity are not diminished and the "services" provided by a clean and healthy environment are not

compromised (one such service being an atmosphere that operates within natural cycles of variability rather than human-induced instability and global warming). The shift toward the use of renewable resources within sustainability limits, and away from non-renewable resource exploitation and use, is another application of the principle of living off the interest.

The principle of living off the interest can be applied in other ways. It is reinforced by current Ontario initiatives to encourage waste minimization and the 3R's (reduce, reuse, recycle) through, for example, the Blue Box program and legislation requiring the elimination of excess packaging. Energy demand management and energy conservation programs are also essential initiatives that have received substantial attention in Ontario. In aggregate, the development of a broad range of initiatives to reduce energy and materials consumption is necessary to fully implement this principle of sustainable development. The good news is that much evidence is accumulating that shows that energy and materials reduction makes economic sense, even in the short-term. Moreover, such reductions almost inevitably lead to lower emissions of greenhouse gases.

The fifth principle, QUALITY OVER QUANTITY, also has many dimensions. At the most fundamental level, it encompasses changes in attitudes and values, with these changes directing and guiding the design of

our policies and institutions, the development and use of new technologies, our lifestyle and quality of life choices, and the relationships between and among people all over the world.

The shift toward less energy- and material-intensive technologies and industrial processes has already been mentioned, with their associated increases in product quality and lower levels of pollution. In addition, the rapid development of information management technologies provides the opportunity for greater economic efficiency as well as decentralization of work environments. These developments and others increase our options for designing communities in ways that reduce the need for expensive, energy- and materials-intensive, and often highly polluting, infrastructures for such things as transportation, waste management and the treatment of water and wastewater.

The impact on greenhouse gas emissions of re-designing our communities, industrial products and processes, and our work environments can be enormous. The principle of quality over quantity suggests that we pay much greater attention to emerging opportunities in these areas, and that government policies and programs should be reviewed and revised to facilitate the desired changes.



The sixth and last principle, RESPECT FOR NATURE AND THE RIGHTS OF FUTURE GENERATIONS, brings in additional ethical and moral constraints. It is becoming more widely accepted that other species besides humans have a right to exist, and that many of our analytical and decision making tools and techniques were designed without adequate consideration of these constraints. Future generations, in particular, have the right to inherit a planet that has its natural resource capital and biodiversity intact. They have the right to a clean and healthy environment, including an atmosphere that is not charged with greenhouse gases from human activities. We have already done much damage to the global environment, and future generations will be impoverished by our actions. It is not too late, however, to begin the process of environmental restoration and to prevent new problems from occurring.

In conclusion, applying the six principles of sustainable development does not give us all of the solutions to the issue of global warming. But the principles do clearly establish the need for immediate and concerted action on a number of fronts, including information gathering, analysis, public education and debate, and a wide range of specific initiatives that can be taken now with acceptable impacts. The principles also strongly support the need to develop and apply more aggressive initiatives that may have significant impacts on industry sectors, regional economies, and groups and

individuals to varying degrees. The main question is not whether actions should be taken, but how they should be designed and implemented to ensure a fair distribution of the costs and impacts that they entail. This case study strongly supports the view that Ontario can and must become a leader in responding to the issue of global warming.

RECOMMENDATIONS FOR DEALING WITH GLOBAL WARMING

Ontario's private and public sectors have already undertaken an impressive array of activities that will substantially reduce

emissions of greenhouse gases. Nonetheless, they are expected to fall short of the Canadian government's goal of stabilizing greenhouse gas emissions at 1990 levels by the year 2000 — a goal the Government of Ontario has endorsed. Clearly, more action will be required to improve air quality and protect our climate.

There is a significant body of literature on global warming including a multitude of recommendations. The Round Table has identified a number of priority recommendations for Ontario, organized into eight broad areas.



PEEL MEMORIAL HOSPITAL in 1988/89 was incinerating 200 tonnes of hazardous waste at \$ 1 per kg. The hospital then clearly defined "biohazardous" so that in 1992 only 50 tonnes are incinerated, with the rest going to the dump, at a cost of only 15¢/kg. The savings are directed toward a reduction and recycling of normal wastes such as food and paper.

As well, the hospital is creating a policy for its suppliers. For example, "non-purchase" waste such as loading skids and containers are the responsibility of the supplier, not the hospital. This not only saves Peel the cost of disposal or recycling, but is an incentive to suppliers to invest in durable, reusable containers.

The hospital intends to partner with suppliers to help them become stewards of "purchased" waste. That is, if they sell plastic intravenous bags to Peel, they should also collect and recycle them. To do this, the hospital has received capital expansion funds to renovate its loading dock area and waste handling area.

The hospital is learning from its past mistakes on its way to operating sustainably. A costly payroll system generates 10 times more paper waste than the previous system. Over three years the hospital is investing in an on-line system that does not use paper.

5.1 Targets

The Round Table recommends the following targets and timetables for reducing greenhouse gas emissions in Ontario:

- A. Greenhouse gas emissions must be stabilized, then reduced, below the 1990 level by the year 2000. Further research and development on the causes and effects of global warming should also be initiated.
- B. Carbon dioxide emissions must be reduced 20 per cent by 2005 and between 70 and 80 per cent by 2030.
- C. An 80 per cent reduction in global emissions from fossil-based fuels is needed by the year 2030 if the composition of the atmosphere is to be remain as it is now.

5.2 Energy Production and Distribution

- A. The Round Table recommends that the Government of Ontario require the Ontario Energy Board (OEB) to adopt a "least cost" planning approach, which means that the most cost-effective mix of energy supply and demand management options be favoured, and that the Government give the OEB authority over electrical utility rates, in order to encourage energy efficiency.

- B. The Round Table recommends that the Government of Ontario institute a system of economic incentives/disincentives to increase the use of renewable biomass energy and promote development of technologies and facilities for non-carbon energy sources such as solar, wind, and hydro-electric.

5.3 Energy Conservation

- A. The Round Table recommends that the Government of Ontario review and revise the provincial building code on a biennial basis, to emphasize more stringent energy conservation.
- B. The Round Table also recommends that the provincial building code be amended to include an R2000 insulation standard for all new residential housing, plus more stringent building and lighting standards for the commercial sector.
- C. The Round Table recommends that the Government of Ontario raise the profile of the *Energy Efficiency Act* and expand its scope to include a variety of residential products not now covered, and that it cover commercial and industrial equipment as well.

5.4 Transportation

- A. The Round Table recommends that the Government of Ontario increase taxes and rebates to purchasers of new vehicles under the Tax for Fuel Conservation ("gas guzzler tax") with taxes and rebates scaled to the fuel efficiency of the vehicle.
- B. The Round Table recommends that the Government of Ontario, in consultation with the petroleum industry, vehicle manufacturers, steel recyclers, and other stakeholders, develop and implement an incentive program for scrapping old vehicles.
- C. The Round Table recommends that the Government of Ontario encourage the Government of Canada to work with vehicle manufacturers to implement a more stringent corporate average fuel consumption standard.
- D. The Round Table recommends that the Government of Ontario, in consultation with farmers and other stakeholders, implement programs to expand the use of Ontario-cultivated ethanol as an octane enhancer in gasoline (as well as encourage other biomass energy applications).

E. The Round Table recommends that the Government of Ontario develop a province-wide strategy for increasing urban densities, restricting the loss of farm land and natural areas to urban growth and for creating opportunities to live close to work.

F. The Round Table recommends that the Government of Ontario and of Metropolitan Toronto develop and implement a plan to double public transit ridership in the GTA by the year 2005.

G. The Round Table recommends that Ontario municipalities introduce more efficient transportation modes including: increased use of high occupancy vehicle lanes; employer-supported van/car pools; tailored parking fees; increased use of public transit, cycling and walking.

H. The Round Table recommends that the Government of Ontario, in consultation with vehicle manufacturers, the petroleum industry, and other stakeholders, establish in-use vehicle inspection/maintenance/enforcement programs for all transportation modes.

I. The Round Table recommends that the Government of Ontario, through its procurement practices, favour the use of energy efficient vehicles and vehicles that operate on alternative fuels such as natural gas, ethanol and electricity.

5.5 Industry

A. The Round Table recommends that the Government of Ontario, in consultation with industry and other stakeholders, develop programs to reduce CO₂ emissions below 1990 levels by the year 2000.

B. The Round Table recommends that the Government of Ontario, in consultation with Ontario Hydro, a number of energy-intensive industries, and other stakeholders, develop plans for technical and financial assistance to promote energy efficiency.

C. The Round Table recommends that the Government of Ontario, in consultation with the forest sector and other stakeholders, promote increased forest growth through intensive silviculture, afforestation of treeless areas, improved forest protection and reforestation of harvested forests.

5.6 Controls on non-CO₂ Sources

A. The Round Table recommends that the Government of Ontario require that CFCs used in the manufacture, service, and disposal of all mobile refrigeration and air conditioning systems, be captured and recycled.

B. The Round Table recommends that the Government of Ontario begin developing regulations to (a) require owners of large landfills to install methane gas collection and flaring systems; and (b) require that landfills be designed and constructed to maximize the quantity of gas that can be recovered.

C. The Round Table recommends that the Government of Ontario complete development of a plan for controlling nitrogen oxides and volatile organic compounds (which contribute to low-level ozone formation).

5.7 Market-Based Approaches

The Round Table recommends that the Government of Ontario work with other jurisdictions to implement market-based approaches to reduce CO₂ and other greenhouse gases.

5.8 Adaptation

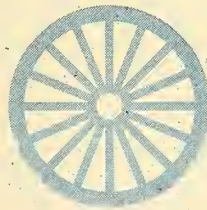
The Round Table recommends that all governments develop plans for a climate that, despite our best efforts, is changing; this should include selecting appropriate tree species and meeting changing energy demands.

CONCLUSION

The members of the Round Table offer this strategy as an innovative but practical way of creating in Ontario a way of life in which the environment and economy are treated as mutually supporting, not mutually exclusive; in which values of conservation, concern for others, and for future generations are evident; in which the environment and economy sustain us and those who will follow us.

Ontario is in the midst of complex structural and cyclical changes in the economy, making it even more difficult for organizations with narrow interests and mandates to recognize the opportunities sustainability offers. We urge that they do so.

The initiatives recommended in this strategy are administratively and financially manageable: Round Table members emphasize that they took great care to work within the Government of Ontario's existing fiscal framework.



We are aware that the necessary steps will not be easy and cannot be made all at once. They will take a decade or more to carry out in full; while some may be implemented now, years of preparation will be required for others.

But time is not the principal determinant of the eventual success of restructuring for sustainability in Ontario. Commitment — by groups, organizations, governments, and individuals — is. If stakeholders grasp the ideas of sustainability — of anticipation and prevention, of efficiency and innovation, of quality and respect, of commonality and consensus, of links between the environment and the economy, between information and decisions — action will surely follow.



MINISTRY OF GOVERNMENT SERVICES launched its Green Workplace Program in 1989 in offices, jails, hospitals, and other sites. It has reduced material waste by 40 % and expects to hit a target of 50 % by 1995. Next on the ministry's agenda is electrical refits to cut energy use 20 % by 2000. Water efficiency plans include low-flush toilets and saving rain to water gardens at Queen's Park.

The ministry is also experimenting with new composting systems to compost food waste from institutions such as correction facilities, psychiatric hospitals and educational centres. Wind-rows, aerated static piles and in vessel composters are being piloted. MGS has entered into a partnership with Brewers Retail to back haul office and park waste from Chapleau, Ontario to Toronto. If this project is successful other remote locations will be serviced with full recycling systems.

APPENDIX 1: MEMBERS OF THE ONTARIO ROUND TABLE ON ENVIRONMENT AND ECONOMY

- The Honourable Ruth Grier,
Chair, Minister of the Environment and
Minister Responsible for the Greater
Toronto Area
- Jon Grant, Vice-Chair,
Chairman and C.E.O., Quaker Oats
Company of Canada Ltd.
- Ted Boswell
President, E.B. Eddy Forest Products
- The Honourable Elmer Buchanan
Minister of Agriculture and Food
- Rosalind Cairncross
Environmental Consultant
- The Honourable Brian Charlton
Minister of Energy
- Grant Collins
Regional Director, Ontario Federation
of Agriculture
- The Honourable Dave Cooke
Minister of Municipal Affairs
- Janine Ferretti
Executive Director, Pollution Probe
- Ursula Franklin
Massey College, University of Toronto
- Colin Isaacs
Environmental Consultant
- Dean Jacobs
Executive Director, Walpole Island
Heritage Centre
- Bill James
President and C.E.O., Denison Mines
- The Honourable Ed Philip
Minister of Industry, Trade and
Technology
- David Runnalls
Director, Institute for Research on
Public Policy
- Pat Sullivan
Amalgamated Clothing and Textile
Workers Union
- Sylvia Sutherland
Downtown Peterborough Business
Improvement Area
- Richard Thomson
Chairman and C.E.O., Toronto-
Dominion Bank
- Toby Vigod
Commissioner, Commission on
Planning and Development Reform
- The Honourable Bud Wildman
Minister of Natural Resources and
Minister Responsible for Native Affairs

Policy Committee Members

David Runnalls, Chair

Bob Christie

Janine Ferretti

Jon Grant

Colin Isaacs

Duncan MacDonald

Steve Shrybman

Toby Vigod

Peter Victor

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APPENDIX 2: POLICY PAPERS AND SEMINAR REPORT SUMMARIES

The Policy Committee of the Round Table studied a number of specific issues, and convened three seminars, thereby generating the policy papers and seminar reports listed and subsequently summarized below.

- *Conflict Resolution and Sustainable Development: An Alternative Dispute Resolution Policy for Ontario*
- *Environmental Impact of Farm Support Policies in Ontario*
- *Integrating Sustainable Development into Workplace Governance*
- *Reporting on Sustainability: Human Well-Being within Ecosystem Well-Being*
- *Opportunities and Economic Instruments*
- *Study of the Economic Value of Environmental Damage in Ontario*
- *Seminar: Corporate Reporting for Sustainable Development (December 13, 1991)*
- *Seminar: Economic Restructuring for Sustainable Development (March 3, 1992)*
- *Seminar: An Environmental Information Policy for Ontario (March 6, 1992)*

CONFLICT RESOLUTION AND SUSTAINABLE DEVELOPMENT: AN ALTERNATIVE DISPUTE RESOLUTION POLICY FOR ONTARIO, BY RACHEL RALSTON BAXTER

This study proposes that a public framework for dispute resolution which anticipates conflicts likely to arise in implementing and operating a sustainable society is integral to the success of a strategy for sustainability.

The disadvantages of litigation have led to increased interest in the use of alternative forms of dispute resolution (ADR). These alternatives are based on negotiation, mediation, arbitration, consultation and private adjudication. They allow the parties a greater role in the resolution process, encourage more flexible solutions, and foster better working relationships. Within the context of sustainable development, the conflicts most likely to benefit from alternative dispute resolution techniques are those involving land use planning.

The paper concludes that consensual resolution is feasible and well worth trying in almost all environment-economy disputes if attempted in the early stages of the conflict before positions become too polarized. The promotion and adoption of a policy for dispute resolution will not require a large budgetary outlay, and in the long run will result in a net saving.

The study recommends that the government of Ontario:

- adopt a policy promoting the use of ADR methods for conflicts arising in the environment-economy context;
- authorize and promote the use of ADR techniques within all provincial ministries, agencies and boards;
- establish professional standards for those acting as neutral third parties;
- establish an independent government body to provide information, train public employees, provide a forum for conflict resolution processes, and carry out research;
- establish a fund to help eligible parties participate in consensual dispute resolution processes;
- strengthen consensual agreements through regulations which encourage compliance; and

- consider a program in which private parties negotiate the terms of a regulation with the government and are bound not to litigate or lobby against those terms.

ENVIRONMENTAL IMPACT OF FARM SUPPORT POLICIES IN ONTARIO, BY JOHN GIRT

This report reviews the environmental results of farm income-support programs and proposes more sustainable alternatives. The income supports started modestly in the 1960s and 1970s as buffers against short-term changes in yields (caused by drought, frost, and flooding) and in commodity prices. They have since been used on a much larger scale against dropping prices and rising costs and interest rates, and now account for almost half of farm incomes.

They also encourage farming practices that cause environmental problems. These include: growing expensive and intensive crops, the highest possible yields, lack of support for more benign and non-market crops, subsidizing the use of artificial fertilizers and pesticides, and monoculture crops isolated from natural areas.

The paper proposes some conservation goals for Ontario farming. The organic content of soils should be increased. Water pollution and soil erosion should be reduced. Fragile lands such as wetlands and wildlife habitat should be retired from farming. Wildlife populations should be improved. Dependency on non-renewable sources of energy should be reduced.

It then proposes 12 strategies for achieving these goals, including: increasing prices of chemicals relative to crops; reducing prices of corn, small grains, and livestock; increasing prices for soybeans; reducing the amount of tillage; based income support on farm units rather than specific crops; reducing farmland area; diversifying land use; and combinations of these.

The most important change, the report concludes, is to change the income support programs from specific commodities, which encourages maximum yields of high-intensity crops, to farms themselves, which would encourage diversification and less intense land use. This means changing the purpose of major existing farm income programs, not adding on marginal environmental programs.

This leads to the report's main recommendation of using non-commodity-based methods of supporting net farm income. Among the nine other recommendations are: reducing tillage and

energy use; increasing farm sizes; replacing sales tax exemptions for energy, fertilizer, and pesticides with free crop insurance; offering courses in soil, water, and habitat management; developing multi-stakeholder sustainability guidelines for all provincial programs and policies and an information system to monitor the impact of farming on the environment.

INTEGRATING SUSTAINABLE DEVELOPMENT INTO WORKPLACE GOVERNANCE, BY JOHN O'GRADY

This discussion paper proposes using labour-management relations processes to advance sustainable development. It describes the growth of collective bargaining processes and issues in Canada and compares it with Europe and the United States.

The paper notes that the system has handled income and procedural issues well, but newer issues such as training and adjustment poorly. It sees this as an opportunity to "introduce social priorities onto the agenda of labour-management" processes. These issues include employment equity and the environment. This is proposed as an alternative to minimum standards, which may be inefficient or ineffective, and to market incentives, which may be expensive. It is also suggested that such a move would induce firms to innovate more, thus improving their competitiveness.

Four proposals are made:

1. The province should pay for studies of skills needed for sustainability in eight private sectors (steel, mining, forestry, autos, food retailing, meat processing, electronics, and aerospace), four public sectors (municipal, education, health, provincial), and construction.
2. Joint labour-management environmental committees should be set up for all companies and institutions with 500 or more employees (47% of labour force). The committees' goal should be reaching consensus on improving environmental performance of the company or institution in reducing pollution, waste, and noise and in conserving and renewing resources.
3. Following a period of transition with joint committees, all large employers should be required to adopt sustainability plans.
4. To support #2 and before #3, reasonable disclosure and consultation requirements should be made of large employers.

REPORTING ON SUSTAINABILITY: HUMAN WELL-BEING WITHIN ECOSYSTEM WELL-BEING, BY R. A. (TONY) HODGE AND INGRID E. TAGGART

This paper proposes that a reporting system which: provides a check on progress; ensures accountability; gives early warning signals for policy changes; and assists in communicating results to all Ontarians is critical to a provincial strategy for sustainable development.

Reporting on sustainability should include data and information about human well-being, the human-ecosystem interface (including human activities, their contribution to the supply of basic needs and to the quality of life, and the stress they impose on the ecosystem), and ecosystem well-being. Such a system would help decision makers at all levels—individual/household, corporate/sectoral, community/settlement, and regional/provincial.

The paper suggests a short list of key indicators for sustainability be developed from seven key categories of sustainability indicators:

- assessment of personal, corporate, sectoral, community and provincial well-being;
 - assessment of the contribution of human activities to basic needs and quality of life;
 - key expenditures and subsidies;
 - assessment of environmental stress, resource use efficiency, and opportunities for improvement;
 - record of compliance;
 - participation in decision making; and
 - monitoring and assessing ecosystem well-being.
- The report recommends that the Government of Ontario:
1. develop and implement a system of reporting on sustainability that would: consider human and ecosystem well-being and the nature of the human-nature interface; and support monitoring and decision making at four key levels;
 2. establish a small, arms-length, reporting unit to oversee implementation of a system of sustainability reporting, including development of key indicators of sustainability;

3. formally adopt an ecosystem approach to management, an ecological land classification for Ontario and a compatible data and information management system; and
4. formally request that Statistics Canada: develop a taxonomy of all human activities, include information about physical, chemical and biological stresses imposed on the environment by human activities, and review and assess the alternative ways of monitoring, assessing and valuing human activities.

OPPORTUNITIES AND ECONOMIC INSTRUMENTS, BY TONY CASSILS

This report proposes ways for taxes and charges to supplement or replace regulations for controlling pollution. These methods include:

- Charges and tax differentials for discharging effluents, using resources, or making certain products;
- Tradable permits among large-scale polluters;
- Subsidies in the forms of grants, low-interest loans, and tax breaks;
- Deposit/refund systems; and
- Enforcement through fines or performance bonds.

The benefits of economic incentives over regulations are stated to be: clearer, more direct signals to consumers and industries; incentives to do better than the minimum standards; encouragement to develop better technology; more scope for innovation in meeting standards; and much lower administrative costs.

The report describes how the various economic methods could be applied to major environmental issues. Solid and hazardous wastes could best be controlled by user charges (dump tipping fees, garbage-collection charges per bag, and taxes on items like batteries), deposit-refund systems, and tradable permits. Water pollution is responsive to pricing by the amount used, charges for emitting effluents, tradable permits, removal of subsidies, and fines.

Air pollution is divided into acid rain, urban smog and ground-level ozone, and greenhouse gases. It notes that energy efficiency reduces most forms of air pollution, which is largely caused by burning fossil fuels. Broad measures are one tax on all forms of energy or a carbon tax that distinguishes between cleaner and dirtier forms of energy. Specific measures include product taxes that reward efficiency and penalize inefficiency, large-scale government buying of energy-efficient products, high

parking fees, highway charges, and pricing hydro by the amount used. Tradable permits could be used to control sulphur dioxide, nitrous oxide, volatile organic compounds, and carbon dioxide.

Agriculture and forestry are industries cited as depending on "reverse" subsidies that are no longer appropriate and should be changed.

The report recommends:

- Pilot projects on higher dump tipping fees, deposits/refunds for batteries and liquor bottles, full-cost water pricing, tradable water-pollution permits on one river system, a carbon tax on fuels, tradable permits for sulphur dioxide air emissions, a sales tax on chemical fertilizers and pesticides.
- Medium-term initiatives to charge for the full costs of major pollutants; deposits/refunds for appliances, electronic goods, and cars; tradable permits for nitrous oxides and volatile organic compounds; tradable permits for water pollution; and taxes on virgin materials.
- An information system on the costs of regulation versus incentives;
- Removal of "reverse" subsidies; and
- A substantial prize for innovative pollution abatement.

STUDY OF THE ECONOMIC VALUE OF ENVIRONMENTAL DAMAGE IN ONTARIO, BY CARL SONNEN AND MARK HANEY

This study linked 12 papers in the past decade (plus one from 1969) trying to put dollar values on specific environmental damages that have occurred in Ontario. Most were on air pollution (7), with fewer on water (4) and soil (2) pollution. The studies were quite limited: they were done by different agencies, they were usually about specific materials or regions, and they were preliminary efforts to assess the broad scope, not the precise amount of damage values in their own areas.

The major limitation found was that the "value" of damages was only what would qualify for marketable legal compensation. But studies of financial estimates elsewhere have shown the true value of environmental damage is "orders of magnitude" (10, 100, or 1,000 times) greater than the strict legal or market value. For example, there is no established value for all or part of a human life. The papers also do not try to place future values on environmental resources, which may be much greater than current values.

The authors conclude, "there is no current credible basis for estimating . . . the aggregate value of economic damage to the economy and population of Ontario of environmental stress." Within that context, though, the papers together point to strictly compensable damage of probably more than \$100 million a year, although the estimates varied widely. The highest one was air pollution damage to buildings and materials at \$5.5 billion a year. The lowest one was \$0.4 million a year for loss of commercial fishing because of mercury contamination of the Wabigoon-English River system in northwestern Ontario. Most individual damages — for example, extra road maintenance and water treatment due to soil erosion in southwestern Ontario — were in the \$10-100 million range annually.

The report notes two important barriers to developing credible estimates:

- There has been no substantial commitment by public authorities to the systematic development of estimates, and
- A sufficient information system for the regular development of estimates does not exist.

SEMINAR: CORPORATE REPORTING FOR SUSTAINABLE DEVELOPMENT (DECEMBER 13, 1991)

This seminar was co-sponsored with the Ontario Securities Commission for senior business leaders, securities regulators, environmentalists, investment analysts, accountants, and lawyers. It was intended to find ways to integrate sustainability into specific methods of measuring and reporting on business activities, beyond more general corporate planning and management processes.

The goals of the meeting were to hear ideas about how corporations should set objectives and measure progress, to develop recommendations for regulators, and to start building commitment to sustainability as an integral part of corporate reporting.

Issues identified by the seminar were: the comparative investment climate of Ontario; integrating capital market regulation and tax policies into an overall program for sustainable development; ensuring that capital flows to sustainable enterprises; business leadership and accountability; and the need to educate capital markets, investors, accountants, and lawyers on sustainability.

The seminar concluded with four recommendations:

1. The boards of directors of public corporations should be required to formulate and publish their policies on sustainable development.
2. Public corporations should be required to report at least annually on their progress in carrying out these policies. The reports should be combinations of financial, scientific, and narrative information.
3. Organizations of accountants, lawyers, investment dealers, and industries should develop standards and guidance materials to help corporations develop policies and report their results.
4. The province should set a date of 3-5 years for reviewing these corporate policies and quality of corporate reporting.



SEMINAR: ECONOMIC RESTRUCTURING FOR SUSTAINABLE DEVELOPMENT: PERSPECTIVES FROM EUROPE AND JAPAN (MARCH 3, 1992)

While many in Canada are concerned that environmental and energy efficiency standards will jeopardize the competitiveness of Canadian industry, the Germans and Japanese appear to be tightening their environmental standards in a bid to invent the environmental and energy efficient technologies of the next millennium. How can public concern in Canada about sustainable development be transformed into an opportunity to create new strategies for competitive advantage?

This seminar was organized to explore the German and Japanese experience in using environmental regulation and standards to stimulate innovation and drive the economy.

Maxim Worcester, member of the management board for Frankfurter Allgemeine Zeitung, Germany's leading newspaper, explained that for German companies, the major thrust towards

becoming "green" comes from public pressure. Typically, companies which respond to this pressure are small, self-regulated, highly flexible businesses. They tend to focus their activities in specific market niches, market their products globally, are driven by the market and by technology, emphasize innovation, and rely on a highly motivated workforce. They are close to their customers, emphasize cleanliness, and use their environmental record as a strong marketing tool. In many cases, these companies have environmental standards which go beyond environmental legislation.

Mitsuya Goya, managing director of the Japan Center for International Exchange, explained that with a densely populated land base, Japan has historically implemented tough environmental legislation; by 1978, for example, the country had the world's highest emission standards. Tough standards have, in turn, encouraged manufacturers to become efficient—and innovative. Japanese manufacturers, for example, have developed a streamlined modular system for car assembly—and disassembly and recycling of used car parts. Industry leaders take the environment seriously; the most powerful business lobby in the country has developed a Global Environment Charter to help members recognize the need for action and innovation on a global scale.



SEMINAR: AN ENVIRONMENTAL INFORMATION POLICY FOR ONTARIO (MARCH 6, 1992)

This seminar arose from concerns about the inability either to gain insights into trends or to form effective public policy from the increasingly large and expensive amount of environmental data being collected in Ontario. It was felt the province needs an environmental information policy that both guides overall public policy and helps set standard protocols for the integration of data collection by different government agencies. As well, the distinction between data collection and independent analysis was addressed.

The seminar began with the presentation of five background papers: "The Nature and Scope of an Environmental Information Policy for Ontario," "Natural Resource Accounting," "State-of-Environment Reporting and Environmental Indicators: An Ecological Approach," "Economy-Environment Linkages: Sustainable Development in Ontario," and "Reporting on Sustainability: Human Well-Being within Ecosystem Well-Being."

The ensuing discussion led to 10 recommendations, half on better information systems and half on better content. The recommendations on information systems included:

- Create a "common services institution" to collect, store, and offer information. This agency would set protocols and standards for collection of new data inside and outside government, for existing systems and data, and for quality control. It should ensure low-cost public access to data.
- Make Ontario's information systems compatible with similar work by the federal government, other provinces and regions, and internationally.
- Recognize the power of the Geographic Information System (GIS) as an integrating mechanism by confirming the Ontario Electronic Basic Map as the provincial standard, completing provincial coverage, and updating to ensure effectiveness.

The recommendations on information content included:

- Monitor stocks and flows of natural resources and set up accounts that show whether the province is using only ecological interest or capital, too.
- Use a multi-stakeholder approach to gathering data.
- Set up an arm's-length agency to analyze data collected by the "common services institution", make regular public reports on the province's progress towards sustainability, test new proposals for sustainability, and provide links among government, business, and public interest groups.
- Monitor the province's ecological health by assigning existing institutions such as universities the role of regional ecological health clinics.



APPENDIX 3: TASK FORCE REPORT AND NATIVE PEOPLE'S CIRCLE REPORT SUMMARIES

AGRICULTURE AND FOOD SECTORAL TASK FORCE: FINAL REPORT

In preparing this report, the Agriculture and Food Sectoral Task Force consulted with stakeholders in developing an overall strategy for sustainable development. Through a combination of research and formal and informal meetings, the task force has documented the state of the agricultural sector and the options and obstacles to sustainability, as well as recommendations for action.

The Report

Two in ten Ontarians work within the agriculture and food system, in jobs which range from the production of food to the serving of it. According to opinion polls, the Canadian public already regards farming as one of the two most environmentally conscious economic sectors. Many of those working in the agricultural sector see sustainability as simple "common sense".

Chapter One of the report outlines changes and successes in the provincial agricultural system over the past several decades.

Chapter Two describes the challenges of recent decades, including falling food prices, rising costs, environmental problems created by agricultural chemicals, the loss of rural land, and the negative impacts of climate change, urban smog and acid rain on crops. In some cases, these challenges have created economic opportunities.

Chapter Three documents aspects of the provincial food and agriculture system which already contribute to sustainability. These include innovative farming practices, consumer demand for health/whole/green foods, government programs which enhance soil conservation and environmental protection, research into new sustainable practices, and an initiative to reduce packaging.

Sustainable Farming documents practices which: take advantage of natural ecosystem processes; involve fewer harmful inputs; match crops to the productive capacity of the land; and better manage soil, water, energy and biological resources.

The Land describes key issues and attitudes: the preservation of agricultural land; the security of our food supply; demand for open space; the ecosystem approach to land management; and the need to document costs and benefits of land use policies.

Information, Marketing, Processing, and Packaging documents issues such as: public demand for information; the promotion of sustainably-produced local products; and the reduction of waste from the food and agriculture sector.

Rural Development points out that the survival of farming and rural life is in question. A comprehensive approach to rural development is required to protect the environment, strengthen the agricultural sector, and maintain rural communities.

Climate Change points out that farmers must plan for change well in advance. It also describes ways the agriculture sector can reduce its contribution to global warming.

ENERGY AND MINERALS SECTORAL TASK FORCE (ENERGY SECTOR): FINAL REPORT

In preparing this report on sustainability in the energy sector, the task force sought input from stakeholders. Task force members first developed a consultation document and distributed it for comment to selected stakeholders from industry, governments, labour, environmental organizations and the native community. Members also participated in four public

sessions on sustainable development, and organized two public forums and a series of public presentations. In preparing its conclusions and recommendations, the task force reviewed feedback from these meetings and responses to the consultation document.

The Report

Canada uses more energy per dollar of output than any other major industrialized country. Ontario—with one third of the national total—is a major energy consumer. Industry accounts for 35 percent of end use consumption, followed by transportation (24%), residential (19%), and commercial (14%). Energy production and use result in air and water pollution, land degradation, radiation and radionuclide build up, the release of carbon dioxide and other greenhouse gases through the burning of fossil fuels, CFCs released from air conditioning units, acid rain, and urban air contaminants.

The **Introduction** to the report describes the strengths and weaknesses of the Ontario energy system. Although consumers have choice and security of supply, the environmental costs of energy choices are not accurately reflected in decision making or in the costing and pricing of energy products and services.

Decision making in the energy sector identifies a need for regular reviews of natural gas and electricity supply and demand, of long range plans for Ontario utilities, and of cross-fuel and cross-utility issues. It also suggests that public participation in decision making and diversification in the electricity supply sector are crucial to sustainability.

Energy technology points out that cleaner technologies can increase efficiency and competitiveness as well as help the environment. Ontario can realize this potential through tougher energy efficiency and pollution standards, greater use of renewable energy, consumer education, cooperative research and the development of less carbon-intensive technologies.

Comprehensive data bases and monitoring systems can provide the detailed information we need to assess the environmental effects of energy production and use. The report suggests this can best be accomplished through a public monitoring and open reporting system.

Full cost pricing and accounting for energy—along with the removal of subsidies, increased competition, and level rate structures—can promote efficiency, new energy sources, and environmental protection. Future accounting practices must capture the environmental impacts of our energy choices.

Energy and competitiveness points out that many Ontario industries are resource-based and energy-intensive. For these industries, sustainability in the energy sector raises concerns about competitiveness. Nevertheless, energy initiatives can encourage the development of environmentally clean technologies and processes, and boost the competitiveness of Ontario industry in world markets.

Appendix A is a background on the Ontario energy sector.

Appendix B is a list of stakeholder names and views

Appendix C is the Energy Sector Consultation Document

FORESTRY SECTORAL TASK FORCE: FINAL REPORT

In preparing this report, task force members agreed that economic, ecological, social, and cultural values must all be considered in creating a sustainability strategy for Ontario's forests. They identified 20 subject areas for discussion. In addressing these issues, task force members met 18 times, reviewed reference material, debated background papers, met with local round tables and development groups, and heard invited speakers. They summed up the essence of their report in a Sustainability Vision which recognizes the need for immediate and concrete action.

The Report

Forest covers roughly three-quarters of Ontario—some 80 million hectares, most of them owned and managed by the Province. The Ontario forest products industry brings in \$10 billion in sales, and contributes \$2.4 billion in wages and salaries annually. Provincial forests also support other industries—notably tourism and recreation—and are important for wildlife habitat, biodiversity, and physical and spiritual renewal. New forest management initiatives stress an ecosystem approach, recognize a wide range of forest values, and stress consultation with municipal governments, labour, Aboriginal people and other interest groups.

The report includes background and recommendations on:

- Aboriginal issues in forestry;
- biological diversity;
- decision-making and institutional issues;
- an overview of economics in the forest industry and the economics of non-timber forest values;
- a forest audit;

- global climate change;
- harvest methods;
- inventories and data base;
- pest management;
- private forest lands;
- professional education;
- protected areas;
- protecting forest sector employment and sustainability of harvest levels;
- public information and education;
- research;
- solid waste management;
- tenure; and
- worker protection and involvement.

The recommendations made in each of these issue areas represent a consensus reached among individuals of widely divergent views and backgrounds and a holistic vision of Ontario's forests.

The report includes an appendix on Aboriginal issues.

MANUFACTURING SECTORAL TASK FORCE: FINAL REPORT

In carrying out its mandate, the Manufacturing task force: prepared and circulated a questionnaire to stakeholders; held internal workshops to define key issues and identify existing barriers and potential solutions; met with key business associations to solicit views and further input; prepare and circulate a discussion paper; held a multi-stakeholder workshop to solicit views on the discussion paper; participated in other stakeholder sessions; and compiled and reviewed stakeholder feedback in drafting its key recommendations.

The Report

The manufacturing sector is a significant consumer of natural resources, goods and services, a developer and user of technology, a generator and user of environmental information, and an important voice in the decision making process. Because the sector lies between natural resource developers and end consumers of resources, it has a critical role in the transition to sustainability. The task force identified—in both economic and environmental terms—the qualities of a sustainable manufacturer. It also identified biosphere protection and enhanced competitiveness as the key objectives of sustainable development. To achieve these objectives we will need to improve decision making processes, information, technology, and pricing and accounting systems.

Part 1 outlines ways government and industry can foster **leadership** to help move Ontario towards sustainability. Such leadership requires the recognition of personal initiative, and is most effective within the context of broadly recognized priorities, genuine partnerships, and clear communication.

Part 2 recommends ways government and industry can improve **decision making**. Moving towards sustainable development will require: that environment be considered up front; that all stakeholders be included; a longer term perspective for decisions on capital expenditures; and public policy programs that promote environmentally and economically sound activity.

Part 3 describes more efficient ways to collect, analyse, disseminate and use **information**. To assess the sustainability of our activities, we need information on environmental integrity, the buffering capacities of specific ecosystems, the effects of trace contaminants on human health, the stock and flows of natural resources through our economy, the linkages between our environment and economy, and competitiveness and its contributing factors.

Part 4 suggests means of moving towards **full cost pricing and accounting** while maintaining the competitiveness of the Ontario manufacturing sector. Resource pricing arrangements which more closely

reflect the environmental and social costs of resource use are often seen as a rational, long term means of resolving environment and economy conflicts.

Part 5 discusses ways Ontario can encourage the development and marketing of clean product and process technology. This can move us towards sustainability by: reducing the environmental impact of our activities; providing new products, processes, and services for domestic and international markets; providing information on the state of our environment and economy; and restoring damaged areas.

Appendices to this report include:

- a list of stakeholders identified by the task force
- questionnaire responses and stakeholder views
- a consultation document produced by the task force
- a questionnaire produced by the task force
- a sample corporate environmental profile
- a sample evaluation of energy efficiency potential
- a selected bibliography.

ENERGY AND MINERALS SECTORAL TASK FORCE (MINERALS): FINAL REPORT

In preparing this report on sustainability in the minerals sector, the task force sought input from stakeholders. Task force members first developed a consultation document and distributed it for comment to selected stakeholders from industry, governments, labour, environmental organizations and the native community. Members also participated in four public sessions on sustainable development, and organized two public forums and a series of public presentations. In preparing its conclusions and recommendations, the task force reviewed feedback from these meetings and responses to the consultation document.

The Report

The minerals sector provides a major contribution to the export earnings of the province and is an economic mainstay for northern Ontario. Its environmental impacts include: the physical disruption of lands and habitat, the release of heavy metals and acid precursors to local and regional air and water sheds, the leaching of heavy metals and acids from tailing ponds, the generation of significant volumes of waste material, and the use of large quantities of energy in extracting and processing.

The **Introduction** to the report describes sustainability in the minerals sector. Changing the present system of production and consumption from one which is largely "once through" to one which is effectively "closed looped" is essential to sustainability. There are already

TRANSPORTATION SECTORAL TASK FORCE: FINAL REPORT

serious concerns that world economic and market developments threaten competitiveness.

Part 2 describes ways in which the Province can facilitate **improved decision making in the minerals sector**. Although the sector is highly regulated, non-industry stakeholders are asking for greater access to the decision-making process.

Part 3 recommends ways that government and industry can promote the development of **minerals technology** which are clean, resource efficient and commercially viable. With notable exceptions, the mining industry has not invested in high yield, clean, and efficient front end processing technologies.

Part 4 suggests means of developing **comprehensive data bases and monitoring systems** for the mining sector through a public monitoring and open reporting system. Key aspects of such a system are standardization, information sharing, data on human and ecosystem health, and ecological indicators.

Part 5 suggests the exploration of **full cost pricing and accounting for minerals**. Industry argues that we need more information about the impact of such a system before we implement it, while environmentalists are generally in favour of such a policy.

Part 6 recommends ways of ensuring **competitiveness** while improving the environmental impact of the mining sector. Because minerals are sold in competitive international markets, Canadian producers have little flexibility. Overall cost structure, including capital costs and taxation, already threaten the ability of provincial producers to compete in such markets.

Part 7 recommends government action towards the **remediation and rehabilitation of mine sites**, prioritizing those which pose a risk to human health, public safety or the environment.

Part 8 promotes **reduction, reuse and recycling** in the mining sector. The most sustainable option is to increase the provincial focus on waste reduction through extending the life of existing infrastructure and products. Every tonne of material that remains in service or is recycled reduces primary resource extraction requirements by an equivalent amount.

Appendices to this report include:

- a minerals data base
- stakeholder lists and views
- the consultation document produced by the task force

In preparing a draft version of this report, the task force invited briefs from selected stakeholders and met with key stakeholders. It circulated the draft report for comment to key stakeholders and others and took these comments into account in drafting this final report.

The Report

The manufacture of transportation equipment contributes over 30 percent of the province's exports and is the single largest manufacturing sector. Per capita energy consumption in Ontario is one of the highest in the world; the transportation sector accounts for over a quarter of this energy. It also accounts for its share of the negative impacts of fossil fuel use, including emissions of greenhouse gases, ground level ozone, urban smog, and adverse effects on the health of humans, animals, and ecosystems.

This report is intended to be a "next steps" document which suggests changes the sector must undertake to make its contribution to sustainable social and economic development.

Chapter I describes the transportation sector in Ontario, including key environmental and economic issues.

Chapter II outlines the task force vision for a sustainable transportation system for Ontario. The elements include:

- reduction of greenhouse gas emissions;
- reduction of ground level ozone production;
- increased use of renewable energy sources;
- improved energy efficiency; and
- improvement of the province's international economic competitiveness through the development of new, state-of-the-art transportation technologies.

Chapter III describes the economic opportunities implicit in this vision.

Chapter IV summarizes the key actions required to achieve this vision, building on current knowledge, technology, infrastructure and decision-making processes. This approach involves:

- improving vehicle performance;
- encouraging the use of alternative and reformulated fuels;
- influencing transportation demand patterns;
- planning for sustainable transportation;
- encouraging a shift towards transportation modes involving lower energy consumption and emission levels;

- managing waste from the transportation sector;
- informing consumers, manufacturers and regulators; and
- ensuring regional and social equity.

Appendix I contains detailed recommendations for moving towards sustainability in the transportation sector.

Appendix II is a comprehensive transportation sector data base.

Appendix III documents the environmental effects of competing transportation modes.

Appendix IV includes lists of key stakeholders and those who responded to the draft report.

URBAN DEVELOPMENT AND COMMERCE SECTORAL TASK FORCE: FINAL REPORT

The task force began its consultation process by inviting ideas about sustainable development from key stakeholders. It then circulated a draft version of this report to a wider groups. Members of the task force visited nine municipalities across Ontario and met with a variety of local representatives, including staff, elected councillors and members of the public.

The Report

Most people in Ontario live in the highly urbanized southern portion of the province, where urban development has led to congestion, pollution and the loss of agricultural lands. Those living in northern Ontario cities must contend with a weak economic base and boom or bust economic cycles.

The **Introduction** to the report outlines the task force membership and process.

Chapter Two discusses the application of the concept of sustainability to the urban setting and reviews the urban patterns that exist in Ontario and the environmental problems that have arisen as a result of unsustainable practices.

Chapter Three describes the task force vision of a sustainable community. Such a community has as its goals:

- maintaining biodiversity
- ensuring a healthy ecosystem
- enhancing and protecting natural ecological processes
- minimizing the consumption of non-renewable resources
- using renewable resources on a sustained yield basis

NATIVE PEOPLE'S CIRCLE ON ENVIRONMENT AND DEVELOPMENT: FINAL REPORT

- supporting a healthy and stable economy
- supporting equitable participation in decision-making
- minimizing waste creation and pollution

Chapter Four lists the constraints and opportunities that need to be addressed. Some municipalities have already taken the first steps towards sustainability.

Chapter Five presents examples of sustainable development initiatives in the urban development sector.

Chapter Six suggests further actions, building on the experience of local communities and responding to the constraints and opportunities.

Chapter Seven offers specific recommendations for the Round Table to include in its sustainable development strategy.

The Appendix to the report provides highlights of regional and local government initiatives to promote sustainability in an urban context.

The Native People's Circle on Environment and Development was set up to bring an Aboriginal perspective to the Ontario Round Table. In developing a draft version of this report, the members of the Native People's Circle drew upon their own experiences. They invited Aboriginal groups, organizations, and First Nations to comment on this report, and contacted the Native community through radio phone-in shows and a newsletter. Responses from these groups and others were considered in the drafting of the final report.

The Report

Aboriginal people have a vast and detailed knowledge of natural processes which can be applied to resource management. They recognize that the land has cultural and aesthetic, as well as economic, value. The survival of many Aboriginal communities depends on healthy local economies based on the sustainable use of resources; their reliance on a healthy environment fits the overall goals of sustainable development.

Section A of this report provides an overview of Aboriginal people in Ontario. Although they have different cultures and languages, Aboriginal people share a determination to preserve their unique rights, values, and cultures, and to gain recognition as a distinct society.

Section B describes Aboriginal economies as a combination of cash-generating and subsistence activities. It describes Native participation in the six sectors studied by the Sectoral Task Forces, and in fishing, hunting, and trapping.

Section C describes key issues for Aboriginal people in the interaction between the environment and the economy. Aboriginal people more typically think in terms of community use of land and resources, and territorial boundaries which shift from season to season. In order to develop healthy economies, however, they now look towards increased ownership of the land base and increased control over resources.

Section D describes the legal and political issues which have a significant effect on Native communities and on local economies. These include unresolved land claims, inherent rights, and Aboriginal self-government.

Section E highlights themes that Native People's Circle members believe must be integrated into the Round Table's strategy for sustainable development, including: the inherent right to self government and the use of resources; economic development on local terms; the Aboriginal tradition of local autonomy; the need for a strong Aboriginal voice in resource management; the value of traditional knowledge; and the critical role of northern Ontario.

S O E R B I B L I O G R A P H Y

Agency: Ontario Round Table on Environment and Economy

Title: Restructuring for Sustainability

Date: Sept. 1992

**Environmental
Indicators**

Notes

